ORDER FOR SUPPLIES AND SERVICES				IMPORTANT: See instructions in GSAR 553.370-300-1 for distribution		PAGE 1 OF 1 PAGE(S)
1. DATE OF ORDER 03/26/2021	2. ORDER NUMBER 47QFPA21F0022			3. CONTRACT NUMBER GS00Q14OADS609	4. ACT NUMBER A22069469	
FOR GOVERNMENT USE ONLY	5. ACCOUNTING CLASSIFICATION				6. FINANCE DIVISION	
	FUND 285F	ORG CODE Q09FA000	B/A CODE AA20	O/C CODE 25	AC	SS	VENDOR NAME
	FUNC CODE AF151	C/E CODE H08	PROJ./PROS. NO.	CC-A	MDL	FI	G/L DEBT
	W/ITEM	CC-B	PRT./CRFT		AI	LC	DISCOUNT

7. TO: CONTRACTOR *(Name, address and zip code)* (b) (6) MILLENNIUM ENGINEERING AND INTEGRATION CO. 1400 CRYSTAL DR STE 800 ARLINGTON, VA 22202-4153 United States (b) (6)	8. TYPE OF ORDER B. DELIVERY	REFERENCE YOUR
	Please furnish the following on the terms specified on both sides of the order and the attached sheets, if any, including delivery as indicated.	
	This delivery order is subject to instructions contained on this side only of this form and is issued subject to the terms and conditions of the above numbered contract.	
	C. MODIFICATION NO. P00000 TYPE OF MODIFICATION:	AUTHORITY FOR ISSUING
9A. EMPLOYER'S IDENTIFICATION NUMBER (b) (4)	9B. CHECK, IF APPROP WITHHOLD 20%	Except as provided herein, all terms and conditions of the original order, as heretofore modified, remain unchanged.
10A. CLASSIFICATION Veteran Owned Business		10B. TYPE OF BUSINESS ORGANIZATION C. Corporation
11. ISSUING OFFICE *(Address, zip code, and telephone no.)* GSA Region 09 Alberto V Gomez 50 UNITED NATIONS PLZ SAN FRANCISCO, CA 94102-4912 United States (b) (6)	12. REMITTANCE ADDRESS *(MANDATORY)* MILLENNIUM ENGINEERING AND INTEGRATION CO. 1400 CRYSTAL DR STE 800 ARLIINGTON,VA 22202-4153 United States	13. SHIP TO*(Consignee address, zip code and telephone no.)* (b) (6) 195 Challenger Way (Bldg 242) El Segundo, CA 90245 United States (b) (6)
14. PLACE OF INSPECTION AND ACCEPTANCE (b) (6) 2420 Vela Way, Suite 1467 SMC/AXRC El Segundo, CA 90245 United States	15. REQUISITION OFFICE *(Name, symbol and telephone no.)* Anthony C Lee GSA Region 9 333 W BROADWAY SAN DIEGO, CA 92101-0000 United States (b) (6)	

16. F.O.B. POINT	17. GOVERNMENT B/L NO.	18. DELIVERY F.O.B. POINT ON OR BEFORE	19. PAYMENT/DISCOUNT TERMS
Destination		03/28/2022	NET 30 DAYS / 0.00 % 0 DAYS / 0.00 % 0 DAYS

20. SCHEDULE

1. Order ID09210032 – SMC Portfolio Architect (ZA) Technical and Engineering Support (STS-3)
Note: Initially, this task order was prepared for solicitation by the U.S. General Services Administration under COI ID09210001 but has been reassigned to ID09210032. Both COI numbers, ID09210001 and ID09210032, are tied to the award PIID of 47QFPA21F0022.

2. The United States Government, acting by and through the General Services Administration, Federal Acquisition Service (FAS) hereby makes award to Millennium Engineering and Integration Company pursuant to the terms and conditions set forth in the Request for Proposal (RFP) (Amendment 3), dated January 13, 2021, Millennium Engineering and Integration Company proposal dated January 19, 2021, their underlying Oasis Small Business (SB) Pool 5B Contract Number GS00Q14OADS609 NAICS 541715, and this Form 300.

3. Non-personal services: Millennium Engineering and Integration Company shall provide expertise and
experience to accomplish a broad range of Advisory and Assistance Support (A&AS) to technical acquisition to include but not limited to Engineering Management, Technical Acquisition, Space and Ground Systems and Architectures, Resilience, Security, and Environmental Monitoring in support of the United States Space and Missile Systems Center/Portfolio Architect (SMC/ZA) located at Los Angeles Air Force Base (LAAFB) in El Segundo, California, Buckley Air Force Base (BAFB) in Aurora, Colorado, and Peterson Air Force Base (PAFB) in Colorado Springs, Colorado.

4. Period of performance:
Base: 03/29/2021 - 03/28/2022
Option Term 1: 03/29/2022 – 03/28/2023
Option Term 2: 03/29/2023 – 03/28/2024
Option Term 3: 03/29/2024 – 03/28/2025
Option Term 4: 03/29/2025 – 03/28/2026
FAR 52.217-8 (Option to Extend Services), if exercised: 03/29/2026 through 09/28/2026

5. Task Order Line Items and Value:
CLIN 0001 Base Term - Direct and Subcontract Labor 12 months (b) (4)
CLIN 0002 Base Term - Surge Support 12 months (b) (4) 0
CLIN 0003 Base Term - Travel and ODC 12 months (b) (4)
CLIN 0004 Base Term - Contract Access Fee 12 months (b) (4)
Total Base Term Value: (b) (4)

CLIN 1001 Option Term 1 - Direct and Subcontract Labor 12 months (b) (4)
CLIN 1002 Option Term 1 - Surge Support 12 months (b) (4)
CLIN 1003 Option Term 1 - Travel and ODC 12 months (b) (4)
CLIN 1004 Option Term 1 - Contract Access Fee 12 months (b) (4)
Total Option Term 1 Value: (b) (4)

CLIN 2001 Option Term 2 - Direct and Subcontract Labor 12 months (b) (4)
CLIN 2002 Option Term 2 - Surge Support 12 months (b) (4)
CLIN 2003 Option Term 2 - Travel and ODC 12 months (b) (4)
CLIN 2004 Option Term 2 - Contract Access Fee 12 months (b) (4)
Total Option Term 2 Value: (b) (4)

CLIN 3001 Option Term 3 - Direct and Subcontract Labor 12 months (b) (4)
CLIN 3002 Option Term 3 - Surge Support 12 months (b) (4)
CLIN 3003 Option Term 3 - Travel and ODC 12 months (b) (4)
CLIN 3004 Option Term 3 - Contract Access Fee 12 months (b) (4)
Total Option Term 3 Value: (b) (4)

CLIN 4001 Option Term 4 - Direct and Subcontract Labor 12 months (b) (4)
CLIN 4002 Option Term 4 - Surge Support 12 months (b) (4)
CLIN 4003 Option Term 4 - Travel and ODC 12 months (b) (4)
CLIN 4004 Option Term 4 - Contract Access Fee 12 months (b) (4)
Total Option Term 4 Value: (b) (4)

FAR 52.217-8 Option to Extend Services (b) (4)

Grand Total (BASE PLUS all OPTIONS) $94,585,708.26

6. Funding:
CLIN 0001 is incrementally funded at (b) (4). There is (b) (4) left to fund.
CLIN 0003 is incrementally funded at (b) (4). There is (b) (4) left to fund.
CLIN 0004 is incrementally funded at (b) (4). There is (b) (4) left to fund.

Total funded amount of this order is $7,381,795.27.

The total value of this Task Order is $94,585,708.26.

7. Incremental Funding: This project may be incrementally funded. If incrementally funded, funds will be added to this task order via a unilateral modification as they become available. The contractor shall not perform work resulting in charges to the government that exceed obligated funds.

Incremental Funding Clause: DFARS 252.232-7007 LIMITATION OF GOVERNMENT'S OBLIGATION (APR 2014)

(a) Contract line item(s) CLIN 0001, 0003, and 0004 are incrementally funded. For these item(s), the sum of $7,381,795.27 of the total price is presently available for payment and allotted to this contract. An allotment schedule is set forth in paragraph (j) of this clause.
(b) For item(s) identified in paragraph (a) of this clause, the Contractor agrees to perform up to the point at which the total amount payable by the Government, including reimbursement in the event of termination of those item(s) for the Government's convenience, approximates the total amount currently allotted to the contract. The Contractor is not authorized to continue work on those item(s) beyond that point. The Government will not be obligated in any event to reimburse the Contractor in excess of the amount allotted to the contract for those item(s) regardless of anything to the contrary in the clause entitled "Termination for Convenience of the Government." As used in this clause, the total amount payable by the Government in the event of termination of applicable contract line item(s) for convenience includes costs, profit, and estimated termination settlement costs for those item(s).
(c) Notwithstanding the dates specified in the allotment schedule in paragraph (j) of this clause, the Contractor will notify the Contracting Officer in writing at least ninety days prior to the date when, in the Contractor's best judgment, the work will reach the point at which the total amount payable by the Government, including any cost for termination for convenience, will approximate 85 percent of the total amount then allotted to the contract for performance of the applicable item(s). The notification will state (1) the estimated date when that point will be reached and (2) an estimate of additional funding, if any, needed to continue performance of applicable line items up to the next scheduled date for allotment of funds identified in paragraph (j) of this clause, or to a mutually agreed upon substitute date. The notification will also advise the Contracting Officer of the estimated amount of additional funds that will be required for the timely performance of the item(s) funded pursuant to this clause, for a subsequent period as may be specified in the allotment schedule in paragraph (j) of this clause or otherwise agreed to by the parties. If after such notification additional funds are not allotted by the date identified in the Contractor's notification, or by an agreed substitute date, the Contracting Officer will terminate any item(s) for which additional funds have not been allotted, pursuant to the clause of this contract entitled "Termination for Convenience of the Government."
(d) When additional funds are allotted for continued performance of the contract line item(s) identified in paragraph (a) of this clause, the parties will agree as to the period of contract performance which will be covered by the funds. The provisions of paragraphs (b) through (d) of this clause will apply in like manner to the additional allotted funds and agreed substitute date, and the contract will be modified accordingly.
(e) If, solely by reason of failure of the Government to allot additional funds, by the dates indicated below, in amounts sufficient for timely performance of the contract line item(s) identified in paragraph (a) of this clause, the Contractor incurs additional costs or is delayed in the performance of the work under this contract and if additional funds are allotted, an equitable adjustment will be made in the price or prices (including appropriate target, billing, and ceiling prices where applicable) of the item(s), or in the time of delivery, or both. Failure to agree to any such equitable adjustment hereunder will be a dispute concerning a question of fact within the meaning of the clause entitled "Disputes."
(f) The Government may at any time prior to termination allot additional funds for the performance of the contract line item(s) identified in paragraph (a) of this clause.
(g) The termination provisions of this clause do not limit the rights of the Government under the clause entitled "Default." The provisions of this clause are limited to the work and allotment of funds for the contract line item(s) set forth in paragraph (a) of this clause. This clause no longer applies once the contract is fully funded except with regard to the rights or obligations of the parties concerning equitable adjustments negotiated under paragraphs (d) and (e) of this clause.
(h) Nothing in this clause affects the right of the Government to terminate this contract pursuant to the clause of this contract entitled "Termination for Convenience of the Government."
(i) Nothing in this clause shall be construed as authorization of voluntary services whose acceptance is otherwise prohibited under 31 U.S.C. 1342.
(j) The parties contemplate that the Government will allot funds to this contract in accordance with the following schedule:

Upon execution of contract - $7,381,795.27

July 1, 2021 – Funding will be provided for 2 months and an additional 2 months thereafter.

8. Contract Clauses: Refer to the clauses section of the Form 300 Continuation Page, and the Oasis Small Business (SB) Contract Number GS00Q14OADS609 for applicable contract clauses.

9. Invoicing: The contractor shall submit invoices electronically by logging into the ASSIST portal (https://portal.fas.gsa.gov), navigating to the appropriate order, and creating the invoice for that order and attach a copy of invoice. The contractor shall NOT submit any invoices directly to the GSA Finance Center (neither by mail nor via electronic submission). Invoices must include the COI number and the Accounting Control Transaction (ACT) number for proper identification. Failure to include this information may result in invoice rejection. The contractor will be required to resubmit rejected invoices, which may cause a delay in processing payments. The responsible contractor must submit all invoices in the ASSIST portal for review before a payment can be approved by the responsible Government agent. Failure to comply with these requirements will deem the Invoice invalid and the invoice will be rejected. Any submitted invoice(s) must match the information currently found within the System for Award Management (SAM) website. Contractors are encouraged to verify their current registration information at https://www.sam.gov prior to preparing and submitting invoices to avoid unnecessary invoice processing delays or invoice rejects.

FAR 52.217-8 Option to Extend Services (Nov 1999)

The Government may require continued performance of any services within the limits and at the rates specified in the contract. These rates may be adjusted only as a result of revisions to prevailing labor rates provided by the Secretary of Labor. The option provision may be exercised more than once, but the total extension of performance hereunder shall not exceed 6 months. The Contracting Officer may exercise the option by written notice to the contractor within 1 day.

(End of Clause)

FAR 52.217-9 Option to Extend the Term of the Contract (MAR 2000)

(a) The Government may extend the term of this contract by written notice to the Contractor within 15 days before the contract expires; provided that the Government gives the Contractor a preliminary written notice of its intent to extend at least 30 days before the contract expires. The preliminary notice does not commit the Government to an extension.

(b) If the Government exercises this option, the extended contract shall be considered to include this option clause.

(c) The total duration of this contract, including the exercise of any options under this clause, shall not exceed 60 months.

(End of Clause)

ITEM NO. (A)	SUPPLIES OR SERVICES (B)	QUANTITY ORDERED (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
0001	Labor	(b) (4)		(b) (4)	(b) (4)
0003	ODC			(b) (4)	(b) (4)
0004	CAF			(b) (4)	(b) (4)

21. RECEIVING OFFICE *(Name, symbol and telephone no.)* Space and Missile Systems Center Directorate of Systems Acquisition, (310) 363-1528		**TOTAL From 300-A(s)**	
22. SHIPPING POINT Specified in QUOTE	23. GROSS SHIP WT.	**GRAND TOTAL**	**$7,381,795.27**
24. MAIL INVOICE TO: *(Include zip code)* General Services Administration (FUND) The contractor shall follow these Invoice Submission Instructions. The contractor shall submit invoices electronically by logging into the ASSIST portal (https://portal.fas.gsa.gov), navigating to the appropriate order, and creating the invoice for that order. For additional assistance contact the ASSIST Helpdesk at 877-472-4877. Do NOT submit any invoices directly to the GSA Finance Center (neither by mail nor via electronic submission).	25A. FOR INQUIRIES REGARDING PAYMENT CONTACT: GSA Finance Customer Support	25B. TELEPHONE NO. 816-926-7287	
	26A. NAME OF CONTRACTING/ORDERING OFFICER *(Type)* Alberto V Gomez	26B. TELEPHONE NO. (b) (6)	
	26C. SIGNATURE Alberto V Gomez 03/26/2021		
GENERAL SERVICES ADMINISTRATION	**1. PAYING OFFICE**		**GSA** FORM **300** (REV. 2-93)

ATTACHMENT 1

PERFORMANCE WORK STATEMENT (PWS)

FOR

SPACE AND MISSILE SYSTEMS CENTER (SMC) TECHNICAL SUPPORT – 3 (STS-3)

In Support Of

SPACE AND MISSILE SYSTEMS CENTER PORTFOLIO ARCHITECT (SMC/ZA)

Department of the Air Force
Los Angeles Air Force Base (LAAFB)
Space and Missile Systems Center (SMC)
Portfolio Architect (SMC/ZA)

Revised for A0002, 11 January 2021

NOTE:

Deletions are in strike-through red font.

Additions are in blue font.

REVISION HISTORY

Revision	Amendment #	Approval Date	Comments
0	N/A	_____	Original
1	A0001	12/31/20	N/A
2	A0002	1/11/21	N/A

TABLE OF CONTENTS

1.0 INTRODUCTION

1.1 VISION STATEMENT

The SMC Portfolio Architect, in conjunction with the United States Space Force (USSF), creates the Space Enterprise framework to inform and prioritize SMC acquisitions.

1.2 ORGANIZATION AND MISSION

The SMC Portfolio Architect defines and maintains the space enterprise systems architecture, as defined by the USSF operational architecture, and develops the framework to apply collaborative innovation, analysis, and technology baseline planning & integration across international, DoD and other partnerships in order to inform and prioritize materiel acquisitions that rapidly deliver resilient capability to the multi-domain fight.

Note: The Department of the Air Force and the United States Space Force are finalizing USSF's organizational structure for echelons below the headquarters. As the new structure is still in flux, the remainder of this PWS will retain the old AF organizational names with the understanding that they will change.

1.3 BACKGROUND

The SMC Portfolio Architect (SMC/ZA) was formed in 2018 as part of the SMC organizational change to an Enterprise/Corps structure. Formed from the expertise, skillsets, and ongoing efforts of the legacy Military Satellite Communications (MILSATCOM) and Advanced Systems and Development Directorates, ZA became the staff organization for the SMC portfolio architect to enable an integrated space architecture.

1.4 SCOPE

This Performance Work Statement (PWS) establishes the combined requirements for contractor-provided services to SMC/ZA located at Los Angeles Air Force Base (LAAFB) in El Segundo, California, Buckley Air Force Base (BAFB) in Aurora, Colorado, and Peterson Air Force Base (PAFB) in Colorado Springs, Colorado. STS-3 ZA requires the Contractor to provide expertise and experience to accomplish a broad range of Advisory and Assistance Support (A&AS) to technical acquisition to include but not limited to Engineering Management, Technical Acquisition, Space and Ground Systems and Architectures, Resilience, Security, and Environmental Monitoring.

1.4.1 SYSTEMS ENGINEERING, ENGINEERING MANAGEMENT, AND ARCHITECTING

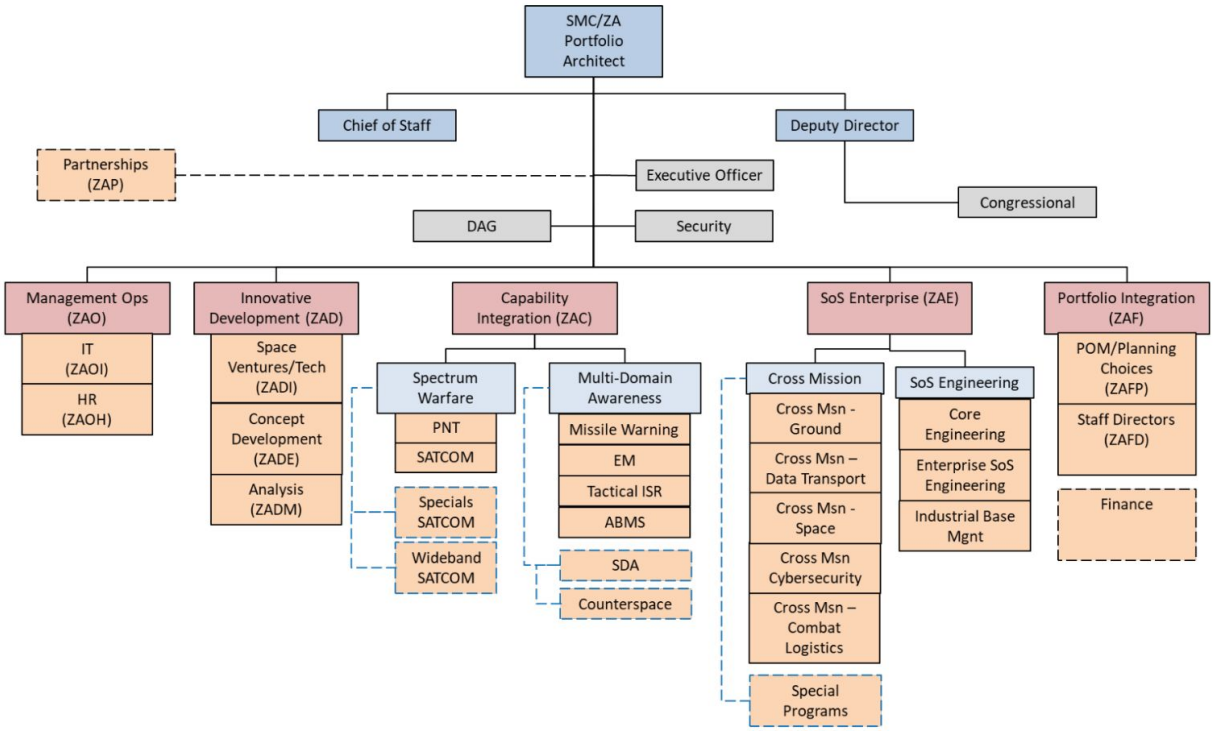
The scope of this PWS consists of ZA's decision support and project execution efforts in systems engineering, engineering management, architecting, modeling and simulation, security, and environmental monitoring across the Directorate. The required areas of support include: acquisition strategy/execution, acquisition engineering, systems engineering, acquisition support, contract management support, quality control, requirements tracking & verification, mission assessments,

system concepts and design evaluations, risk management, system integration and testing, Cybersecurity, and schedule development, maintenance, and analysis. This PWS covers the tasks required to support missions funded by both the Program Element and ZA customers. As a One Acquisition Solution for Integrated Services (OASIS) STS task order, this effort falls within the scope of the basic Indefinite Delivery/Indefinite Quantity (IDIQ) contract. STS-3 ZA services are listed in Table 1: Technical Skill Sets.

1.4.1.1 TECHNICAL SKILL SETS

- Baseline Management
- Data Management
- Risk Management
- Acquisition and Program Planning Technical Support
- Systems Engineering
- Specialty Engineering (25 Disciplines)
- Systems Safety and Environmental
- System Security and Information Assurance
- Integrated Logistics Support
- Test and Evaluation
- System Integration
- System Design
- System Effectiveness and Analysis Support
- Security
- Launch Processing and Verification
- Modeling and Simulation
- Software Independent Verification and Validation
- Mission Assurance Support
- Architecture Support
- Software Engineering

1.5 DIRECTORATE OVERVIEW



1.5.1 INTRODUCTION

The SMC Portfolio Architect includes a total force of approximately 81 assigned military, 83 assigned civilians, 119 Federally Funded Research and Development Center (FFRDC) contractors, and 448 other contractors.

1.5.2 ORGANIZATION

The Portfolio Architect organizational structure is comprised of six divisions, each executing a foundational aspect of the Portfolio Architect mission. In order to successfully accomplish their responsibilities and deliver their products, each division relies upon integration among the other divisions and across SMC. This culture of consistent stakeholder collaboration and integration (both internal and external to SMC) is essential to successfully operating as an enterprise.

1.5.2.1 Capability Integration Division (ZAC)

The Capability Integration Division and its Capability Area Integrators are the lynchpin to achieving the Portfolio Architect mission, working with Headquarters (HQ) Air Force Space Command (AFSPC)/United States Space Force (USSF) to understand requirements and implement capability area strategies while collaborating with the SMC Corps to integrate and deliver current programs of record into the architecture. They also evaluate opportunities for partnerships, prototyping, and innovation, to deliver and integrate new technology and inform strategies for future capabilities in the foundational space mission areas:

- Missile Warning/Missile Tracking (MW/MT)

- Satellite Communications (SATCOM)
- Positioning, Navigation & Timing (PNT)
- Environmental Monitoring (EM)
- Space Domain Awareness (SDA)
- Counterspace
- Tactical Intelligence, Surveillance, & Reconnaissance (TISR)
- Advanced Battle Management System (ABMS)

1.5.2.1.1 MISSILE WARNING/MISSILE TRACKING

Overhead Persistent Infrared (OPIR) is the use of persistent infrared (IR) data, collected from space, to support the mission areas of Missile Warning (MW), Missile Defense (MD), Battlespace Awareness (BA), Technical Intelligence (TI), and future data exploitation opportunities. Missile warning supports the warning mission executed by North American Aerospace Defense Command to notify national leaders of a missile attack against North America, as well as attacks against multinational partners in other geographic regions. It also includes notification to geographic Combatant Commands (CCMDs), multinational partners, and forward-deployed personnel of missile attack, and the assessment of a missile attack if the applicable CCMD or multinational partner is unable to do so. Collectively, space-based sensors provide continuous coverage of all CCMD areas of responsibility (AORs). These persistent, overhead satellite sensors are linked via multiple missile warning/defense data processing and dissemination systems to Combatant Commanders (CCDRs) and subordinate forces. This theater system takes advantage of direct downlinks, protected SATCOM, and tactical communications systems. The theater-event system architecture enables rapid dissemination of missile-event warning messages to warfighters, thereby enabling effective passive defense, active defense, and offensive operations. The MW Capability Integrator works with PEOs to allocate requirements to Development, Production, Enterprise, and Cross-Mission programs and works with the Portfolio Integration Chief to synchronize investments and materiel solutions based on the enterprise architecture priorities that incorporate AFSPC/USSF and mission partner requirements. In addition, the MW Capability Area Integrator works with program managers and delivers integrated capabilities into operations ensuring requirements, testing and training are operationally acceptable for Initial Operational Capability declaration.

1.5.2.1.2 ENVIRONMENTAL MONITORING (TERRESTRIAL WEATHER AND SPACE ENVIRONMENT

The majority of direct labor support for this effort will be located at LAAFB with additional support located at PAFB.

A pillar of space domain awareness, environmental monitoring systems equip worldwide strategic and tactical forces with weather intelligence for planning and executing aerospace, ground, and naval operations. Environmental monitoring provides information on terrestrial weather, space environment and oceanographic domains in critical support of maritime, land, and air platforms that affect military operations. Space-based environmental sensing supports the development of forecasts and assessments of environmental impacts on both friendly and threat military systems and operations. Information is used by multiple organizations (557th Weather Wing, Fleet Numerical Meteorology and

Oceanography Center, and Naval Oceanographic Office) to support joint forces and Services, as well as by individual forecasters in the field supporting local units. This information includes data provided by non-DoD satellites from National Oceanic and Atmospheric Administration (NOAA) operational systems, National Aeronautics and Space Administration (NASA) research satellites, as well as partner satellites from European and Japanese geostationary weather sat.

1.5.2.2 Innovative Development Division (ZAD)

The Innovative Development Division collaborates with HQ AFSPC/USSF, SMC Corps, Air Force Research Laboratory (AFRL), and others to document an innovation strategy that aligns science, technology, innovation, and analysis efforts to develop concepts that align with enterprise strategies and priorities. This involves developing an innovation ecosystem to identify solutions by implementing a comprehensive modeling, simulation and analysis environment to rapidly assess candidate concepts, and ensure close collaboration with Capability Area Integrators, the Chief Partnership Office, and Cross-Mission Integrators to craft transition plans that plug both near and far term capability gaps. Using a "lead, leverage, learn" approach creates opportunities with other government mission partners, commercial industry, and allies.

1.5.2.3 Systems-of-Systems Enterprise Division (ZAE)

As AFSPC/USSF pursues the operational advantages of an enterprise space architecture, cross-mission capability areas increase resilience by realigning common requirements from the foundational capability areas to build enterprise-wide solutions. The Cross-Mission Integrators of the System-of-Systems Enterprise Division collaborate with HQ AFSPC/USSF, the SMC Corps and mission partners. They explore a range of enhanced resilience options driven by warfighter needs, while evaluating partnership, prototyping, and innovation opportunities to inform potential architectures, drive design solutions, and deliver warfighter-relevant capability increments in the following key Cross-Mission areas: Ground, Data, Data Transport, Space, Space Access and Space Mobility and Logistics, Cyber, and Resilience.

The System-of-Systems Enterprise Division also leads a collaborative effort with HQ AFSPC/USSF and the SMC Corps to create and synchronize the enterprise system-of-systems policy and digital engineering framework that will underpin the successful delivery of the current architecture, while enabling the concurrent development and delivery of the future architecture.

1.5.2.4 Portfolio Integration Division (ZAF)

The Portfolio Integration Division collaborates with HQ AFSPC/USSF to document the space enterprise investment strategy, which informs the Planning, Programming, Budgeting and Execution (PPBE) efforts, enabling delivery of current space programs while concurrently developing the future architecture. All SMC Congressional activities are coordinated through the division's Congressional Analyst. The division also works with the SMC Corps to ensure that acquisition reporting is accurate, consistent, and integrated across the enterprise.

1.5.2.5 Chief Partnership Office (ZAP)

The Chief Partnership Office collaborates with HQ AFSPC/USSF, SAF/IA, and SMC Corps to seek, identify and engage primarily international and also other federal agency partners (e.g. NASA) to

enhance the deterrence, resilience, efficiency, and capabilities of the space enterprise as prioritized in the Capability Area Strategies and Cross-Mission Strategies. The Chief Partnership Office is the SMC focal point for International Armaments Cooperation (IAC), Foreign Military Sales (FMS), and Foreign Disclosure. The Chief Partnership Office also establishes and maintains interagency agreements on behalf of SMC, promotes commercial partnerships in coordination with the Innovative Development Division (ZAD), and promotes DoD partnerships with the Capability Integration Division (ZAC).

1.5.2.6 Management Operations Division (ZAO)

The Management Operations Division delivers the human resources, facility management, training and information technology support essential to mission success.

2.0 COMPLIANCE DOCUMENTS (SEE APPENDIX A)

3.0 GENERAL INFORMATION AND REQUIREMENTS

Throughout this PWS, reference is made to the "Program Contractor." For the purposes of the tasks within this PWS, the term "Program Contractor" does NOT refer to the technical services contractor performing this PWS, but to the prime contractor, major subcontractors, and critical suppliers from which the Government is acquiring a major end item of supply.

3.1 SYSTEM ENGINEERING AND ARCHITECTING PROCESS

ZA Systems Engineering & Architecting (SEA) efforts include evaluation and assessment of future space and missile Systems of Systems (SoS) and Families of Systems (FoS) at the cross- enterprise level, linking materiel solutions to warfighter capability needs in new combinations. These efforts also include assessing new SoS and FoS materiel concepts and performing engineering studies to satisfy space requirements shortfalls and to enhance integrated enterprise level space systems capabilities while crossing traditional program boundaries.

SEA tasks have pervasive effects across ZA and engage all elements of the directorate. Work necessarily needs to integrate multiple divisions' efforts within ZA. The work within ZA divisions is primarily performed at the mission level or project level and follows previously established project boundaries and has its own inherent systems engineering activity. The work performed under this PWS will provide engineering and architecting for ZA primarily at the directorate level, with emphasis on supporting pervasive efforts (more than one division's effort) including cross-enterprise level efforts, mission architecting focusing on assessment and evaluation of concept development at the level of SoS and FoS, SoS engineering, ZA-wide process improvements, and segment and enterprise level systems engineering efforts throughout multiple organizations, across missions, and across project boundaries.

Figure 1 represents the hierarchy of models and simulations within the DoD Analysis Framework where all of ZA's cross-enterprise architecting and analysis efforts shall reside. It shall be used to bring together the various skill sets such as systems engineering and operations research to resolve key issues for decision makers up to and including how decisions affect force structure performance at the campaign levels. Cross-enterprise architecting is a creative element within the SEA task

structure, which must be balanced and controlled with a disciplined process.

FIGURE 1: HIERARCHY OF MODELS AND SIMULATIONS

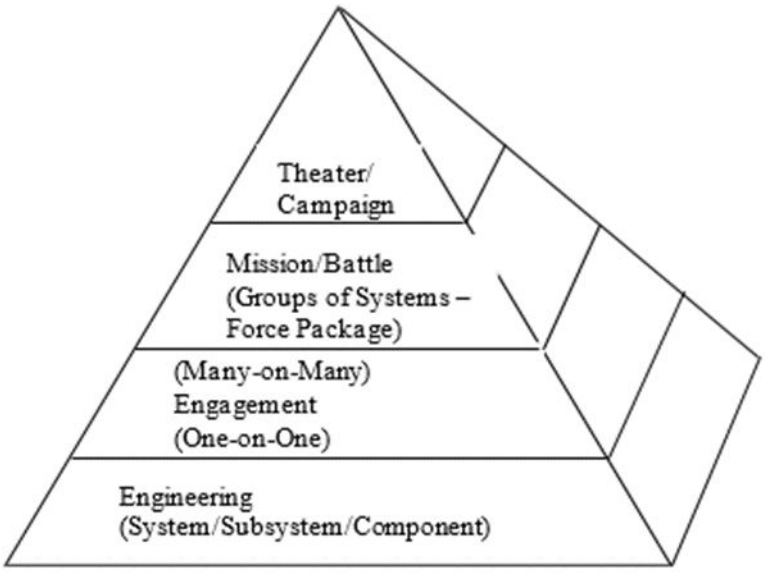
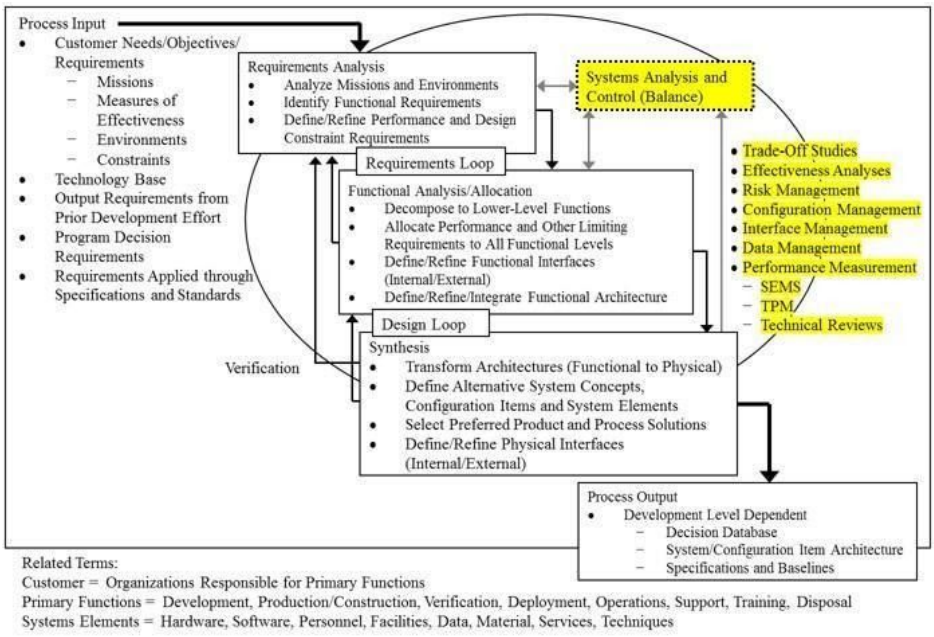


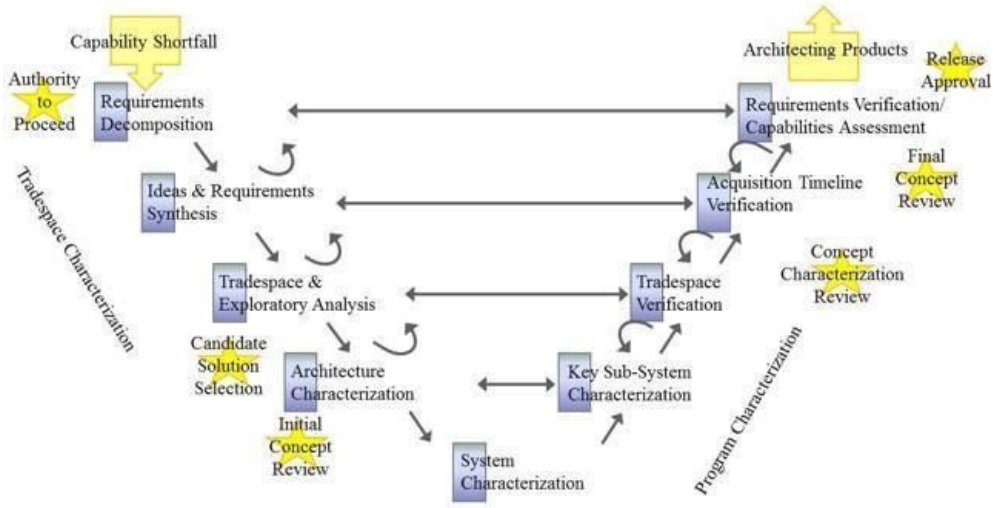
Figure 2 depicts the overall context for the systems engineering tasks to be performed under this PWS. Systems engineering represents the required discipline to bring to reality the creative outputs of the cross-enterprise architecting function. The systems engineering function also illustrates the link between capability needs and eventual acquisition programs of record. In particular, engineering efforts performed under this PWS shall focus on the Systems Analysis and Control function described in the AF Early Systems Engineering Guidebook as applied to enterprise level SoS or FoS created during the enterprise architecting task. See the yellow box in the upper right hand corner of Figure 2.

FIGURE 2: SOS/FOS SYSTEMS ENGINEERING PROCESSES



Through its SEA efforts, SMC/ZA uses systems engineering discipline to assess products created by ZA's divisions, as well as other SMC and AFSPC/USSF organizations, at various milestones (illustrated by the stars in Figure 3 below) in the FoS/SoS process. Figure 3 illustrates how SEA efforts integrate ZA's cross-enterprise level architecting and systems engineering efforts to ensure a disciplined, integrated end-to-end process for FoS and SoS. Taken together, cross-enterprise architecting analysis, engineering discipline, and enterprise level integration offer a very powerful approach to providing highly integrated space enterprise capabilities to the warfighter and rapid decision quality support for key modernization or recapitalization decisions.

FIGURE 3: PRE-ACQUISITION SYSTEMS ENGINEERING PROCESS V-CHART



3.2 TERMS AND DEFINITIONS

3.2.1 PROGRAM MANAGEMENT OFFICE (PMO)

The USSF office responsible for managing this Task Order is SMC/ZA located at LAAFB.

3.2.2 PROCURING CONTRACTING OFFICER (PCO)

The Procuring Contracting Officer (PCO) is the Government representative designated by USSF to direct and/or redirect the efforts of the Contractor or modify any of the items of this contract. The PCO will operate with General Services Administration (GSA) OASIS.

3.2.3 CONTRACTING OFFICER REPRESENTATIVE (COR)

The Contracting Officer Representative (COR) is the Government representative appointed by the PCO that is responsible for monitoring, evaluating and reporting Contractor performance on this task order. The COR will interface with the Contractor and the PMO.

3.2.4 DIVISIONAL TECHNICAL REPRESENTATIVE (DTR)

The DTR is the COR's Government representative within the division that is responsible for monitoring, evaluating and reporting Contractor performance on this task order to the COR. The DTR will interface primarily with the COR and is referred to as the 'PM' in the Deliverables.

3.2.5 CONTRACTOR TASK ORDER LEAD

The Contractor Task Order Lead is the individual identified by the Contractor to manage the SMC/ZA task order. The Contractor Task Order Lead has authority over and responsibility for all Contractor personnel and resources supporting this task order. The Contractor Task Order Lead shall coordinate contract responsibilities to include, but not limited to, ensuring the overall contractual

effort is meeting the requirements of the basic contract and this task order. Additionally, the Contractor Task Order Lead acts as liaison between the SMC/ZA, the PMO, and the Contractor.

3.2.6 SURGE REQUIREMENT

Surge requirement (Contract Line Item Number (CLIN) XX02) is defined as temporary work to support mission activities outside of the baseline effort in order to meet additional customer needs. The purpose of surge is to maintain the ability to scope and de-scope efforts as required by mission volume. The Contractor must ensure they can provide this type of flexibility. In the event of a surge need, the Contractor will be notified by the CO concerning the additional performance requirements.

3.2.7 DATA RIGHTS

The Government shall retain unlimited rights to all data and deliverables developed at Government expense. During the period of the contract, records, documents, and associated papers shall be available for review at any time per Government request.

3.3 PERIOD OF PERFORMANCE

The initial period of performance shall be a total of five years from the date of award of the task order, to include a basic year and four 1-year options to extend the Period of Performance (PoP) an additional four years. There will be one late start task covering requirements section 4.8 with a four month initial PoP followed by four, 1-year options to extend the PoP an additional four years. Also, if required, the extension of services will extend the contract up to 6 months.

3.4 CONTRACT MANAGEMENT

Management of this task order shall be addressed in the Contractor's Task Order Management Plan and Monthly Status Reports as required by Contract Data Requirements Lists (CDRLS: 001, 002).

3.5 GOVERNMENT-FURNISHED INFORMATION

The Government will provide Government-Furnished Information (GFI) on the Systems Effectiveness Analysis Simulation (SEAS) database and any other existing software required upon contract award.

3.6 GOVERNMENT-FURNISHED EQUIPMENT

The Contractor shall not purchase any hardware or software to accomplish the requirements of this PWS unless otherwise specified in a PWS task. Any purchased material shall become the property of the Government upon completion of the task order. Software integrity shall be maintained by the Contractor within the licensing agreement of the manufacturer until such software is delivered to the Government, or otherwise disposed of In Accordance With (IAW) Government direction.

3.7 GOVERNMENT-FURNISHED PROPERTY

The Government anticipates providing the Contractor with any of the following as required which is not provided under the Aerospace lease (IAW FAR Part 45): desk(s), phone(s), computer equipment (to include all necessary hardware and software), an e-mail account, and use of the Government's telephone, facsimile machine, and copy machines.

3.7.1 SOFTWARE TOOLS

The Government will provide user access to software tools required for the contractor to accomplish the tasks in this PWS (examples include but are not limited to SharePoint, LiveLink, Giant, CTE, Space Control Lookout, ACR, and RRR, and other applications listed in Appendix C below).

3.8 CONTRACTOR-FURNISHED PROPERTY

Contractor personnel will rent physical work space from the Aerospace Corporation located at LAAFB where the majority of ZA's offices are located and, if applicable, at other support locations. The Contractor will deal directly with the Aerospace Corporation and will be billed by the Aerospace Corporation.

3.9 STAFFING REQUIREMENTS

Requirements identified in this section are considered aspects of routine business operations. This workload is captured in the minimum staffing and capabilities described in the ensuing paragraphs.

3.9.1 LOCATION

All individuals that support this effort shall be collocated with the Government, pending space availability, with the majority of FTEs being located at LAAFB at The Aerospace Corporation complex, El Segundo, CA. Additional FTEs will be located at PAFB, Colorado Springs, CO and BAFB, Aurora, CO.

The Contractor shall establish and provide a signed Aerospace Lease Agreement between Aerospace and the Contractor for on- site Aerospace workspace in the LAAFB area as identified or required by the Government. (Deliverable: 022)

3.9.2 MINIMUM REQUIREMENTS AND KEY PERSONNEL

The following table represents the Government's anticipated minimum FTE for support including estimated PWS third-level requirements, skill level, clearance, and location. Key Personnel are identified by location. This is a Government estimate that may be tailored by the Offeror

Labor Category	PWS (v13)	Security Clearance (S,TS,N/A)	Min Required FTE			Key Personnel		
			LAAFB	BAFB	PAFB	LAAFB	BAFB	PAFB
Journeyman	4.4.2	TS/SCI			2			
Journeyman	4.1.5	TS/SCI	3					
Journeyman	4.1.4.3	TS/SCI	8					
SME	4.2.1 Thru 4.2.5, 4.2.9	TS	2.5					
Senior	4.2.1 Thru 4.2.5, 4.2.9	TS	2					
Journeyman	4.2.1 Thru 4.2.5, 4.2.9	TS	2					
Journeyman	4.2.1 Thru 4.2.5, 4.2.9	TS	2					
SME	4.2.8	TS	0.5					
Senior	4.1 and 4.3.1	TS/SCI	1					
Journeyman	4.1.6-4.1.7	TS	2					
Journeyman	4.6, 4.7	TS/SCI	2			1		
Journeyman	4.8	TS	2	3				
Journeyman, Senior	4.1.1, 4.2.1, 4.2.4	TS/SCI	2			2		
Journeyman, Senior	4.1.5, 4.1.7, 4.1.8, 4.2.3	TS/SCI	2			1		
Journeyman, Senior	4.1.6, 4.3.1, 4.4, 4.4.3, 4.6	TS/SCI			2	1		2
Senior	4.3 - 4.4.3	TS/SCI	2					
Senior, SME	4.1	TS/SCI			2			2
Senior SME	4.2.1, 4.2.3, 4.2.6, 4.2.6.1	TS/SCI	1			1		
Senior, SME	4.2.1, 4.2.3, 4.2.6, 4.2.6.1	TS/SCI	1			1		
Senior	4.9	TS/SCI	1			1		
Journeyman	4.5.1 - 4.5.5, 4.5.7 - 4.5.8	TS/SCI	4					
			40	3	6	8	0	4

3.9.3 FULL TIME EQUIVALENT (FTE)

The definition of a Full-Time Equivalent (FTE) is a single individual performing services no less than 1,880 hours per year.

3.9.4 HOURS

Unless otherwise specified in the requirements sections, the Contractor shall provide services during the core hours (0800 – 1600 Monday through Friday except federal holidays: New Year's Day, Martin Luther King, Jr. Birthday, President's Day, Memorial Day, Independence Day, Labor Day, Columbus Day, Veterans Day, Thanksgiving Day, and Christmas Day) for an expected minimum of 1880 hours annually per FTE (40hrs/week x 52 weeks minus 80hrs). On occasion, the Contractor may be requested to provide services outside of core hours.

The Contractor may not use excess hours from one individual (i.e. hours worked above 40 hours a week) as credit to another individual to offset a shortage of hours.

3.9.5 LABOR CATEGORIES, DEFINITIONS, AND EDUCATION/EXPERIENCE

There are three labor categories identified for this PWS; Journeyman, Senior, and Subject Matter Expert (SME). Education and experience should be in related fields such as but not limited to; systems architectures/engineering, mathematics, space systems and acquisitions, analysis, modeling and simulation, programming/programming language, acquisition regulations/law/policy, Special Access Program (SAP), Aerospace industry, network technologies, Cyber Security, Certified Information Systems Security Professional (CISSP) certified, Information Assurance, Risk Management Framework (RMF) and Portfolio Management, science and technology application/concept development/planning, Physics, Meteorology, Space Operations and mission areas, National Security Space (NSS) system models, wargaming and technical resources, launch systems survivability and responsiveness, financial management, accounting, contested-space and threat-based space system resilience, security, information management, and various elements of program protection and security.

Journeyman: A Journeyman labor category has ~~at least~~ 3 to 10 years of combined industry, federal government, or SETA/FFRDC experience supporting federal government space system acquisition and/or space operations. A Journeyman has a BA/BS (preferably in a related field to the PWS requirements) or MA/MS degree in a related field to PWS requirements. A Journeyman labor category typically performs all functional duties independently.

Senior: A Senior labor category has over 10 years (12-16 minimum preferred) of combined industry, federal government, or SETA/FFRDC experience supporting federal government space system acquisition and/or space operations. A Senior labor category should have a MA/MS degree in a related field to PWS requirements and typically works on high-visibility or mission critical aspects of a given program and performs all functional duties independently. A Senior labor category may oversee the efforts of less senior staff and/or be responsible for the efforts of all staff assigned to a specific job.

Subject Matter Expert (SME): A Subject Matter Expert is an individual whose qualifications and/or particular expertise are exceptional and/or highly unique. Subject Matter Experts are preferred to have at least 20 years across a breadth of experience to include, but not limited to: space operations, space mission areas (e.g. MILSATCOM, Precision, Navigation and Timing, Launch, etc.),

requirements, enterprise-level strategy and planning, General Officer level recommendations and advisement, warfighting construct, collaboration with federal agencies and DoD mission partners. Space acquisition experience is desired. SMEs are typically identified as recognized Industry leaders for a given area of expertise and provides strategic advice, technical guidance and expertise to program and project staff; provide detailed analysis, evaluation and recommendations for improvements, optimization development, and/or maintenance efforts for client-specific or mission critical challenges/issues; and leads surveys to collect and analyze data to provide advice and recommend solutions.

3.9.6 QUALIFICATIONS

Each individual that supports this effort shall meet or exceed qualifications for the entire period of performance. The Contractor shall provide qualified individuals as identified in this work statement and shall verify an individual's qualifications in advance of making planned personnel changes. The Contractor shall obtain the COR's concurrence prior to assignment to this Task Order for key personnel positions as identified in the staffing matrix.

4.0 PERFORMANCE REQUIREMENTS – BASELINE & SURGE

The following requirements represent the base-level effort and any surge level efforts as annotated in paragraph 3.3.6. Unless otherwise identified in the following sections, the Contractor shall provide services during the core hours (0800 – 1600 Monday through Friday except federal holidays) as outlined in section 3.9.4. On occasion, the Contractor may be requested to provide services outside of core hours. (CDRLS: 002, 004)

The Contractor shall provide SoS and FoS planning, decision support and systems engineering for developing and acquiring new military space systems capabilities and solutions. The Contractor shall develop the decision support products for force modernization planning, disciplined SoS engineering management, control and integration. (CDRLS 002, 004, 005, 006, 017)

4.1 CROSS ENTERPRISE ARCHITECTING

All direct labor support for this effort will be primarily located at LAAFB.

Architecting is an improved analytic force structure modernization planning activity. The goal of ZA's cross-enterprise architecting and analysis efforts is to provide high quality decision support products to the SMC and AFSPC/USSF senior decision makers for the space acquisition enterprise. The goal of Mission Area Architecting processes is to supply decision quality products to the SMC and AFSPC/USSF senior decision makers for the three key interrelated processes of requirements generation, PPBE, and acquisition. The products form an architecting process to recapitalize existing capabilities, accelerate transformation and strengthen joint warfighting capabilities by objectively examining quantifiable measures of performance against military requirements.

The Contractor shall ensure strategic, operational, and tactical guidance is followed as stated in the AFSPC/USSF Core Function Support Plan (CFSP), Joint Requirements Oversight Committee reports, approved Concept of Operations (CONOPS), and Commander's intent is incorporated in the performance of SEA tasks. The Contractor shall input AFSPC's/USSF's and other National Security

Space (NSS) requirements and approved CONOPS into a space cross-enterprise architecting framework. The Contractor shall document the space enterprise baseline, document the minimum acceptable capabilities for the space enterprise under multiple scenarios, and provide a plan to analytically close the space enterprise gaps between the baselines and the minimum acceptable capabilities for multiple scenarios. The Contractor shall generate quantitative metrics for all capabilities and shall use these metrics to conduct the analysis. The Contractor shall create and document optimal capability solutions, as well as identify possible new capability solutions using quantitative metric performance curves or other visual means for relaying the information to decision- makers. The Contractor shall identify and report both a near and long-term view (life-cycle) of the upcoming critical decision points for the space enterprise and ensure the architecting analysis and the scenarios used in the analysis are updated for future critical decision points. (CDRLS 002, 004, 005, 006, 020)

4.1.1 ANALYTIC FRAMEWORK

The Contractor shall create and document for the Government an analytic framework for modeling and simulating potential SoS and FoS materiel solutions and concepts in appropriate scenarios in order to evaluate and recommend modernization changes. Potential materiel solutions may include concepts from national organizations (including the National Reconnaissance Office (NRO) Space Architect), DoD agencies, civil agencies (including NASA), and industry. The Contractor shall create analytic tooling and perform trade study assessments of, and recommend changes to, candidate surface, air, and space mission SoS and FoS to include (CDRLS 002, 004, 005, 006, 020):

- Potential materiel solutions (concepts),
- System of systems factors which include joint or shared accomplishment of certain missions:
    - System vulnerability, survivability and resilience;
    - Survivability to the dynamic natural environment (radiation analysis);
    - System commonality such as shared, distributed, or common ground infrastructures or shared, distributed on-orbit infrastructures;
    - Enhancements and new technologies to improve system performance, utility trades, and technology readiness assessment;
- Launch and propulsion systems
    - Cost effectiveness, performance, and utility;
    - Enterprise level plans, need statements, and assurance process improvement;
    - SoS and FoS System and technical roadmaps;
    - Quick turn (less than 90 days) studies;
    - Operational requirements generation and refinement; and
    - Operations research analyses

4.1.2 INTEROPERABILITY, COMPATIBILITY, AND SUITABILITY

The Contractor shall model, simulate, and analyze surface, air, space, and cyber enterprise concepts, SoS and FoS to evaluate compatibility, interoperability, and suitability of joint, coalition, and other surface, air, space, and cyber enterprises to appropriate standards (e.g. Joint Technical Architecture, Defense Information Infrastructure - Common Operating Environment, and commercial standards, DoDD 8320.02, Data Sharing in a Net-Centric Department of Defense (Data Exposure). This shall include modular, open and networked architectures devised to operate across missions and throughout the joint enterprise. (CDRLS 002, 004, 005, 006, 011, 020)

4.1.3 CURRENT AND PROGRAMMED CAPABILITIES

The Contractor shall assess and report present and programmed space enterprise SoS and FoS performance as well as planned block strategies using quantitative metrics. The Contractor shall identify and report the performance deficiencies between the Government's current SoS and FoS and desired performance. The Contractor shall also identify and report existing and planned SoS and FoS that could be modified to provide desired performance to include planned block upgrades. (CDRLS: 002, 004, 005, 006)

4.1.4 ALTERNATIVE CONCEPTS AND ARCHITECTURES

The Contractor shall assess Analyses of Alternatives and provide SoS and FoS recommendations to meet space enterprise requirements and capabilities. The Contractor shall identify and assess alternatives for achieving space enterprise capabilities (levels of solution from the full requirements compliance to the minimum acceptable capability), technical alternatives, alternative architectures, etc. The Contractor shall identify and report capabilities that could have an important impact on national security needs. The Contractor shall identify and report alternative SoS and FoS concepts to support ZA's ability to inform AFSPC/USSF, SMC, and NSS selection and prioritization of force structure modernization or sustainment decision options.

The Contractor shall assist in the development of candidate architectures which are more resilient to emerging threats and/or are more affordable than existing architectures and systems. The Contractor shall provide detailed analysis to bolster/support investment decisions, orbit characterization, performance, resilience, costing, tradespace characterization, and requirements mapping.

The Contractor shall develop and validate a credible and repeatable process for measuring and evaluating the resiliency of architecture, identify and utilize DoD and industry best practices to develop the AFSPC/USSF position on the subject.

The Contractor shall support the collection, configuration control and re-use of architecture products to support AFSPC/USSF efforts and eliminate redundant work, to include data entry and day- to-day support and training, tool specification, input/output, interface characterization and database management.

The Contractor shall support cross-mission area architecture development through the identification of potential synergies and efficiencies across multiple mission areas based off of existing roadmaps and System Program Directorate developed to-be architectures. The Contractor shall evaluate and characterize the known tradespace and ensure requirements mapping of newly developed

enterprise-level cross-mission area architectures. The Contractor shall support the AFSPC/USSF Architecture Synchronization forum and Major Command taskings by providing architecture options and provide support to the SMC Architecture Group and Council through the development, management and maintaining of partnerships with Other Government Agencies (OGAs).

The Contractor shall leverage on-going SMC and USSF efforts to evaluate current AFSPC/USSF ground systems, identify near-term gaps, potential efficiencies, industry/commercial technological building blocks, and benchmark OGAs ground systems to understand their rationale for their execution strategy.

The Contractor shall develop candidate architectures that resolve common functions into common/enterprise solutions and reduce the cost associated with acquiring and maintaining multiple systems to achieve the same function. (CDRLS: 002, 004, 005, 006, 020)

4.1.4.1 ALTERNATIVE CONCEPTS & ARCHITECTURES STUDIES

The Contractor shall develop trends analysis of the space ecosystem to assist SMC determine investment priorities. This is aimed to help reduce time and cost across space assets to achieve ongoing assured access to space. The areas of focus include but are not limited to future supply chains, commercial processes, and the impacts of time phased expenditures in certain areas. The timeline will include short term (12) month, mid-term (3) years, and long term (4) years and beyond. (CDRLS: 002, 004, 005, 006, 020)

4.1.4.2 ALTERNATIVE CONCEPTS & ARCHITECTURE ANALYSIS

The Contractor shall develop and integrate strategy and space systems architectures, validated by analysis efforts, to define investment and development opportunities and decisions in support of NSS & joint warfighting activities.

HQ AFSPC/USSF (Enterprise Strategy and Architectures Office (ESAO) and A9) and SMC (Portfolio Architect [PA]) require support in defining strategic and operational-level strategy, developing associated architectures, and executing analysis processes to enable risk-informed investment decisions across the NSS enterprise to enable continued application of joint warfighter and National Command Authority effects in, through,and from space.

The Contractor shall draft and integrate operational-level strategy, pulling from National Strategies to advise HQ AFSPC/USSF leadership on strategy and architecture options and provide core themes to influence strategy to task implementation efforts within AFSPC/USSF and SMC.

The Contractor shall develop operational strategy and strategy-to-task lines-of-effort, driving integrated space, ground, and command & control architectures while leveraging available analysis capabilities internal and external to AFSPC/USSF to inform Program Baseline Review (PBR), Integrated Priorities List (IPL), POM, Requirements, Acquisition, etc.

The Contractor shall develop, execute and refine integration and synergies across SMC developmental and production efforts, Space Rapid Capabilities Office (RCO), Space Security & Defense Program (SSDP) and mission partners to ensure all supporting capabilities are developed

and fielded on a timeline necessary to ensure newly fielded capabilities are operationally relevant.

The Contractor shall act as a liaison between AFSPC/USSF and SMC Portfolio Architect to align strategy and architecture efforts informing SMC development and production efforts

The Contractor shall act as a liaison with external partners, including SSDP, NRO, NGA, AFRL, Defense Advanced Research Projects Agency (DARPA), AF Major Commands (MAJCOMs), CCMDs, etc., as required to inform development of strategy, architectures, and capability development efforts.

AFSPC/S9 specific support requirements include:

The Contractor shall develop an Analysis Roadmap and Execution Plan that synchronizes space architecture capability and developmental decisions in support of PBR, IPL, POM, requirements, etc. The roadmap and execution plan will direct which organizations will perform what type of analysis, using a library of approved analysis tools/techniques to ensure repeatable, defendable and objective analysis of architectures, capability and developmental decisions.

The Contractor shall provide support to maximize sound analysis techniques, reduce duplication of effort and ensure decision makers understand the limit of analytical capabilities, the assumptions applied, and the range of possible analytical results, enabling risk informed decisions across Science and Technology (S&T), Research and Development (R&D), development, production, training and budgetary efforts.

The Contractor shall provide technical analysis support, both on-site and via reach-back, to develop analysis tools, leverage existing tools and tie into existing AFSPC/USSF and mission partner analysis efforts.

The Contractor shall develop and inform decision trade space for presentation to AFSPC/USSF, Headquarters Air Force (HAF), CCMD and mission partner senior leadership, enabling risk-informed decisions support development, fielding, investment and R&D activities across the NSS enterprise. Additionally, the Contractor will support development/refinement of operational-level strategy, derived from National strategy, to inform subordinate “strategy-to-task” implementation and analysis efforts throughout AFSPC/USSF, SMC and applicable external agencies.

The Contractor shall develop “strategy-to-task” documents that take AFSPC/USSF operational strategy and delineates key “lines of effort” to inform capability development and integration within SMC and inform analysis efforts to identify architecture and capability trade space to field resilient space architectures that ensure National strategic and tactical-edge capabilities for the Nation, joint warfighters, allies and coalition partners. Included is this effort is development of “Enterprise-level Implementation Plans” aligned to the strategy-to-task lines of effort to provide clear and concise guidance to AFSPC/USSF and SMC 2-ltrs and subordinate offices.

The Contractor shall support business processes and practices that address coordination of

architecture, strategy, development and production efforts across AFSPC/USSF and SMC for the NSS capability portfolio. This support will include managing and oversight of these processes and making recommendations on process improvement to the government for decision and implementation. Work with Government personnel to develop a plan that outlines specific efforts and enables process control and modification. Once directed to implement any changes, the Contractor shall devise, execute and/or oversee change management across tasked organizations.

The Contractor shall provide liaison support between AFSPC/ESAO, SMC PA, SSDP and other entities to help align, inform and collaborate on NSS strategy, architectures and investment opportunities.

The Contractor shall provide direct support to AFSPC/S9 efforts and coordinate the development of an overarching Analysis Roadmap and Execution Plan addressing how AFSPC/USSF will manage, oversee and coordinate all analysis efforts supporting AF space architectures, including associated ground, on-orbit and command & control developmental, production and budgetary decisions.

The Contractor shall develop a work plan that outlines a milestone iterative approach to the development of this analysis roadmap and plan. The plan shall identify the schedule for key activities and organizational responsibilities for AFSPC/USSF, AF and DoD Space Enterprise analysis efforts, including NSS partners, as appropriate. The plan will outline the specific deliverables for each milestone.

The Contractor shall provide technical analysis support on-site and via reach back to synchronize analysis effort across multiple entities, both internal and external to AFSPC/USSF. This technical support will leverage developed operational and “strategy-to-task” guidance to evaluate available tools, both internal and external to AFSPC/USSF, and develop analysis plans that utilize the best available tools and recommend development of new analysis capabilities where existing capabilities do not meet AFSPC/USSF space enterprise analysis needs.

The Contractor shall support AFSPC/ESAO, AFSPC/S9 and SMC PA meetings, as needed by the Government, to discuss any issues, questions or other topics related to the development of the architecture and analysis plans. These meetings will prioritize critical issues and enhancements, determine required collaboration, assignment and delegation of work between Contractor and Government personnel.

The Contractor shall provide staff work as assigned by AFSPC/ESAO, AFSPC/S9 and SMC PA, to include developing strategy documents, briefings, white papers, etc., for internal and external AFSPC/USSF and SMC needs at varying classification levels.

The Contractor shall support strategy, architecture and analysis development efforts, to include requirements, PRB, IPL, POM and other staff processes to inform risk-based investment decisions, as directed by the Government lead at various classification levels.

Classification of the effort will include Unclassified, Top Secret/SCI and Special Access

Program/Special Access Requirements SAP/Special Access Required (SAR) levels. (CDRLS: 002, 004, 005, 006, 020)

4.1.4.3 PORTFOLIO ARCHITECTURAL TOOLS

The Contractor shall support SMC Enterprise Architecting by maintaining the SMC Portfolio Architect (SPA) models and continue its evolution as described herein.

The Contractor shall interface with the SMC solution architectures (e.g. Program of Records, prototypes, etc.) and higher-headquarters for strategic, operational, and technical guidance (e.g. National Security Space (NSS) requirement, approved CONOPS, etc.) to produce federated portfolio architecture models which will be used to support architecting analysis, concept development and technology assessment decision making.

The Contractor shall continue the development, documentation, management, and updates of the SMC Portfolio Architect (SPA) models. The portfolio models shall be capable of modeling "As Is", "To Be", and "Could Be" Space Force Architectures to include SMC and Mission Partner efforts and shall recreate model architecture viewpoints for legacy programs. The portfolio models shall include fit-for-purpose/stakeholder viewpoints and a database with all applicable space, ground control, networks, terminals, mission planning, interfaces (internal, external, and mission partners) and cybersecurity component data. The database shall provide template model elements that can be reused by lower-level models. The portfolio models shall provide the basis of an "Authoritative Source of Truth" to enable the analysis of the 'As-Is", "To-Be", and "Could-Be" full-lifecycle portfolio architectures, and enable coordination with external or higher-level Space Force enterprise models. The portfolio architecture model shall also include traceability to higher-level or system-of-systems architectures within National Security Organizations.

The Contractor shall verify the portfolio models on a quarterly basis to identify missing and outdated artifacts and provide recommendations for changes and enhancements.

The Contractor shall develop dashboards to support the Capability Integrators and other vital stakeholders in understanding and evaluating their capability areas. The Contractor shall recommend minimum functionality, metrics (e.g. measures of performance (MOP) and measures of effectiveness (MOE)), and incremental improvements to be implemented according to approximately quarterly schedules. Minimum functions and metrics shall be developed in collaboration with the stakeholders. The work schedule for a new quarter shall be recommended by the Contractor and then discussed with a ZAX Government person for adjustments and approval.

The Contractor shall develop a users' training curriculum and conduct semi-annual training on the SPA models to include overviews, use of the dashboards, and running of simple scripts.

The Contractor shall support the Space Architecture Synchronization forum and Major Command tasking by supporting, coordinating and providing SPA architecture data models updates to Space

Operation Enterprise Architecture (SOEA) and incorporate changes from SOEA architecture model into the SPA model for consistency across the architectures supporting the AFSPC/USSF vision for space superiority. The Contractor shall not take any direction or request from SOEA or other organizations without Government approval.

The Contractor shall develop and maintain the SPA models on government server(s) where it will be assessable on and off site through Non-classified Internet Protocol Router Network (NIPRNET), Secret Internet Protocol Router Network (SIPRNET), Joint Worldwide Intelligence Communication System (JWICS), and Secure Global Network (SGN) computers as applicable.

The Contractor shall deliver to the Government exportable and executable SPA model source files that would enable the Government to recreate portfolio and program models. The Contractor shall provide the Government a formal walkthrough of the SPA model for each delivery to show/explain the changes from the previous delivery.

The Contractor shall deliver to the Government all data, information, scripts, formatting tools, and parameters necessary to recreate any deliverables from the SPA models environment.

The Contractor shall upload and manage Government-approved draft and final architecture data products to the Global Information Grid (GIG) as directed by the Government.

The Contractor shall invite the Government to all meetings and interactions with other architectures and customers to allow the Government to be involved as necessary. The Contractor shall not take any direction or actions from customers or other organizations without ZAX Government approval

The Contractor shall invite the Government to attend its team meeting to overlook the process for implementation of the model as well as the testing, verification and/or validation check off before the delivery of the SPA model. (CDRLS: 002, 003, 004, 005, 006, 007, 020, 023)

4.1.5 DEVELOPMENT PLANS, CONCEPT CHARACTERIZATION, AND TECHNICAL DESCRIPTION

The Contractor shall develop and document materiel concepts to meet capability area gaps enabling “To-Be” and “Could-Be” Capability Area and Portfolio Architecture trades.

In developing concepts, the Contractor shall conduct requirements analysis, concept development, and identification of risk drivers, needs, and opportunities and shall support cost estimating.

The Contractor shall ensure the concepts integrate key inputs from cross-mission architecture analysis, capability strategies and roadmaps, system engineering standards, state of the art technology and processes, and pervasive technology investment areas.

The Contractor shall identify and report the linkage between definition of needs, future systems/architecture alternatives, S&T investment, system development and demonstration, and incremental acquisition and fielding of capabilities (e.g. systems).

The Contractor shall document the concepts by providing inputs to Concept Characterization and

Technical Descriptions (CCTD) IAW the appropriate AFI and CCTD Guide, unless directed otherwise.

The Contractor shall support communication with SMC leadership and HQ for taskers involving concept development. This could include refinement of cost, schedule, and performance data for concepts as well as the logistics of developing briefing materials and documents and providing briefers.

The Contractor shall advise the Government of any toolsets needed to develop and analyze concepts. If approved, the Contractor shall work with the appropriate team in identifying the required support.

The Contractor shall participate in the Advanced Concepts and Missions Process (ACMP) led by AFSPC/S5/9 to support the Capability Area Teams (CATs)/Capability Area Strategic Reviews (CASRs) in the development of new, advanced, innovative solutions and concepts.
(CDRLS: 002, 004, 005, 006, 007, 018, 020)

4.1.6 SCIENCE AND TECHNOLOGY MANAGEMENT

The Contractor shall analyze and interpret guidance from authoritative Government Science and Technology sources, analyze, identify and document changes and recommend management improvements based on the guidance, coordinate meetings, and generate roadmaps and reports for both capability and Mission Area processes.

The Contractor shall create decision quality products including appropriate professional graphics and editing as needed for: Program Executive Officers – Technology Executive Officers (PEO– TEO) or other senior officer S&T review processes and assist with merging these products with other decision quality products. Products should be capable of being unified, documented, searched, archived, and/or published.

The Contractor shall support Small Business Innovation Research (SBIR): topic management, contractual and financial data and execution documentation management and data base administration and analysis. The Contractor shall provide integration, administrative support, meeting note taking, archival duties and reports publishing for conducting: Defense Industrial Base Innovation activities, Materiel Innovation Working Groups, S&T Review Boards, Applied Technology Councils, Joint Capability Technology Demonstrations, Advanced Technology Demonstrations, Rapid Innovation Fund activities, industry independent R&D and outreach meetings between government and industry.

The Contractor shall support Capability Collaboration Teams and related Integrated Product Teams (IPTs) with documentation searching, trending, archival support, note taking, administrative support and reports publishing including placing S&T decision products into an approved knowledge management system and Authoritative Source of Truth repositories and tools. This includes using digital engineering environment tools to minimize paper and emphasize speed of access and recall of archived data to accomplish these tasks.

4.1.7 TECHNOLOGY DEVELOPMENT STRATEGY

The Contractor shall provide Technology Development Strategy (TDS) and transition planning document support including: professional drafting, graphics, change control, entry into a digital engineering environment and/or authoritative source of truth archive. The TDS shall include the mandatory requirements of DoD 5000.02 or similar document as approved by the government at the time of the document creation and include at a minimum: summary of the prototyping approach, reliability, availability, maintainability, supportability and survivability elements, technology development test plans and a summary of the intelligence report required to develop the TDS and describe the technology development phases. TDS can be written at varying levels of fidelity. The government shall determine the level of fidelity required and will include: low level fidelity for milestone authority decision preparation, a medium level fidelity for post milestone authority and the highest fidelity TDS for Milestone B or equivalent event. The Technology Development and Transition Strategy Guidebook, (July 2009) or similar government reference outlines the components to build the TDS and shall be tailored by the contractor based on level of fidelity chosen by the government. (Deliverable: 017)

4.1.8 INNOVATION

The Contractor shall analyze technology push initiatives to formulate potential materiel solutions and document them according to existing guidance and suggest a strategy to convert technology push candidates into requirements pull candidates of benefit to the space enterprise. The Contractor shall provide planning, analysis, and engineering for the development of technology to advocate for Science and Technology innovation efforts for AFSPC/USSF, the AFPEO/SP and, when called upon, other NSS decision makers. The Contractor shall support the Rapid Innovation Fund program, the SBIR maturation and transition processes. Work products shall include presentation preparation, meeting coordination, consolidation of technical reports, program reviews, and reports publishing. The Contractor shall provide engineering products to the SMC Materiel Innovation Working Group and related AFSPC/USSF Innovation and Architecting processes. Materiel Innovation Working Group information will be integrated to the cross- enterprise architecting tasks. (CDRLS: 004, 005, 006, 020)

4.2 MODELING, SIMULATION, AND ANALYSIS (MS&A)

All direct labor support for this effort will be primarily located at LAAFB.

The following efforts for this PWS support the goals of AFSPC/USSF and SMC in the Studies and Military Utility Analysis (MUA) area. The definitions of the tasks covered herein address the Contractor's duties and responsibilities for Deliverables. They also cover requirements for compliance with Government documents made part of this PWS and supporting SMC/ZA efforts to respond to the needs for Modeling Simulation and Analysis support from SMC Corps and SMC and AFSPC/USSF leadership.

4.2.1 MODELING AND SIMULATION SUPPORT TO STUDIES

The Contractor shall perform Modeling, Simulation, and Analysis in support of cross-enterprise architecting, development plans, technology development, concept development, and military

utility studies, as directed by the Government. Studies can involve interfaces with the partners in other domains and partners contributing to the national security space, including external partners. Mission areas covered in analysis activities may include but are not limited to: SATCOM, PNT, Space and Terrestrial Weather, Missile Warning/Missile Tracking, Battle Management/C3, Ground and Network Segments, Space Superiority, and Tactical ISR. In addition, Theater Ballistic Missiles (TBM) or Cross Mission Data, and Missions across Space effects from any and all of the above broad mission areas may arise including cross mission combat logistics and maneuver, cross mission special programs, cross mission transport, cross mission data, and cross mission ground. The Contractor shall use a variety of tools and analytical techniques, to include equation-based, numerical, statistical, and agent-based modeling & simulation environments. The Contractor shall draft the Models Management Charter for the Government. (CDRL: 024) Contractor shall use techniques and tools in consultation with the Government and as directed by the Government study leads and in accordance with the SMC/ZA Models Management Charter. (CDRLS: 020,025, 026)

4.2.1.1 THE TOOLS AND INFRASTRUCTURE

The Contractor shall choose the right tool(s) including Government Tools to achieve desired analysis results after consultation with the Government. The Contractor shall have the capabilities and expertise to perform analyses in a wide list of government-owned and commercial tools with particular emphasis on AFSIM and secondary emphasis on other tools such as SEAS, STK, etc. Any analysis should be compatible with an AFSIM modeling environment. (CDRLS: 010, 020)

4.2.2 DEVELOP, MAINTAIN, AND ENHANCE MODELS AND SIMULATIONS

The Contractor shall maintain Configuration Control, hold user meetings, support data and model distribution and conduct beta testing of government and commercial tools and create the necessary scenarios or vignettes, Use Cases and Mission threads as directed by the Government. The support to Enterprise Analysis (EA) may encompass any or all of the Missions enumerated in Para 4.2.1 under Enterprise Analysis (EA) including those for the Mission partners. Government, at its discretion, shall decide when new developments, if any, will be needed. The Contractor shall develop and deliver appropriate upgrades, modification, and analysis of the Government-owned software as needed. The contractor shall also fix all possible bugs identified during analysis and remove only as directed by the Government. The SMC/ZA Government tools, when asked by the Government to be developed for SMC/ZA, will be delivered in their most current form with documentation that delineates their applicability to current and future SMC/ZA Capability areas. The Contractor shall develop and deliver appropriate upgrades, modifications, and analyses of the Government-owned software as needed from Analysis needs, and from possible bugs identified during analysis only as directed by the Government. The Contractor shall establish Modeling, Simulation & Analysis (MS&A) Verification and Validation (V&V) procedures for created MS&A tools and software upgrades, to the extent directed by the Government. Contractor shall, when required, will also conduct V&V of Models developed within the division and by Divisions external to ZA. Contractor shall support maintenance of all Government models (AFSIM, SEAS, etc.), as directed by the Government. Contractor shall furnish staff with proficiency in AFSIM and other

Government owned or leased Tools such as SEAS, STK, DOORs, Sparx etc. (CDRLS: 013, 025)

4.2.3 EXERCISE, WARGAMING, TEST & EVALUATION, DEMONSTRATION SUPPORT

The Contractor shall assess the outcomes and evaluate plans for exercises, wargaming sessions, developmental and operational tests, demonstrations, and world-wide contingency operations. Tactics, Techniques and Procedures (TTP's) will be used across a broad spectrum of test and operational environments, as directed by the Government. The Contractor shall analyze technology sharing opportunities among other national, DoD, civil and commercial partners.

The Contractor shall conduct and deliver analyses and reporting for the aforementioned efforts. Analyses and reporting shall emphasize mission, architecture, and systems integration to ensure total system performance. The Contractor shall assess the proposed solution's current operational effectiveness to tactical and strategic military operations. The Contractor shall evaluate results and suggest recommendations for improvements and operational implementations. (CDRLS: 011, 021, 025, 026)

4.2.4 DESIGN OF RESEARCH APPROACH FOR SCENARIOS, SIMULATIONS AND ANALYSIS

The Contractor shall develop analysis plans and scenarios/vignettes/use cases in accordance with operations research and systems engineering best practices. The Contractor shall document and report all directed analysis efforts to include problem definition, scientific/engineering assumptions, study limitations or constraints, and mathematical models, computer-based algorithms for deriving solutions and model validation as tailored and as directed by the Government. The Contractor shall establish a schedule with resource allocation to complete all steps. Government concurrence is required for final design and model implementation. (CDRLS: 005, 020, 026)

4.2.5 ADVANCED FRAMEWORK FOR SIMULATION, INTEGRATION AND MODELING (AFSIM)

The Advanced Framework for Simulation, Integration and Modeling (AFSIM) as well as other Simulation Tools such as SEAS, STK etc., shall be used as appropriate depending on the application. AFSIM source codes are owned by AFRL but are readily available upon request from AFRL/RQ (POC Information available from SMC/ZADM). Contractor shall take advantage of backward compatibility of AFSIM between versions used to the extent feasible. Contractor shall cooperate with other DoD Contractors and the various FFRDC to create AFSIM Multi-domain and/or Space-effects applications, as directed by the Government. The Contractor shall have the capability to run analysis in AFSIM as directed by the Government. If the Contractor creates analysis in another tool, the outcome must be compatible with an AFSIM environment as directed by the Government. (CDRLS: 005, 010)

4.2.6 SYSTEMS EFFECTIVENESS ANALYSIS SIMULATION (SEAS)

All direct labor support for this effort will be primarily located at LAAFB.

The Contractor shall execute maintenance in SEAS as directed by the Government based on

requisitions received from SMC/ZA Leadership when required. The Contractor shall instill interoperability and backward compatibility of software by ensuring old analysis software are compatible with new releases and making sure agents can be run in new SEAS versions, at the request of the Government. The Mission Areas covered will cover any and all of the areas enumerated in 4.2.1. (CDRLS:: 013, 016, 026)

4.2.6.1 MODEL EVALUATION FOR EXTERNAL MODELS/SIMULATION SYSTEMS

External models and simulations may be used with SMC/ZA Models to provide unique functionalities that facilitate SMC/ZA Mod/Sim efforts. The Contractor shall perform analyses to evaluate external simulations and models available to meet needs specified by the Government. The Contractor shall also evaluate the data produced by external models and document integration with SMC/ZA Mod Sim Tools. (CDRL: 020)

4.2.6.2 SIMULATION SYSTEMS ENGINEERING & TECHNICAL SUPPORT

The Contractor shall develop and maintain Master plans, requirements, design, and implementation for integration of additional functionality into SMC/ZA Models and provide enterprise level Configuration Management support for the SMC/ZA models. This shall include maintenance of the ZA Models' development roadmap and maintenance of a Master Change List (MCL) to document proposed, approved, in-progress, and completed changes to the SMC/ZA Model Source Codes. (CDRLS: 013 and 025)

4.2.6.3 CONFIGURATION MANAGEMENT

The Contractor shall provide Configuration Management (CM) for SMC/ZA controlled Tools, as and when required, to a SMC/ZA Configuration Control Board (CCB), which meets annually and will be chaired by the Government. The Configuration Management will apply to any ZA involved, applicable Government Tools, including SEAS.

The Contractor shall solicit and receive change requests from the User community, documenting them in the MCL for all SMC/ZA Tools. The Contractor shall review proposed modifications for impact to the SMC/ZA Model Configuration Baseline while maintaining the CCB's changes in the documentation. The Contractor shall produce and disseminate CCB meeting notices, "read-ahead" charts, agendas and minutes, within a reasonable timeframe. The Contractor shall develop the process for ensuring the ZA models' registration and dissemination is approved by the Government. (CDRLS: 013, 024, 025, 026).

4.2.6.4 MAJOR SOFTWARE UPGRADES FOR CERTAIN CONTINGENCIES

Government Intent is not to invest dollars on SEAS development. However, Contractor shall develop and deliver upgrades and modifications of SEAS's software Source Code to provide added capabilities and functionality, if so required by the Government due to any contingency or due to bug fixes required by Modelers. If these cases do arise, the Contractor will be asked to design, develop, and test software to integrate additional functionality into SEAS or other Government owned software as it comes to acquire, if required. No such provision applies to AFSIM or GIANT because it is done by other Government Agencies. For Source Code development, when called for, Contractor shall use DoD

best practices. (CDRLS: 010, 011, 013)

4.2.6.5 DOCUMENTATION

The Contractor shall update both on-line and off-line SMC/ZA supporting documentation to software in accordance with established Industry product standards. The Contractor shall develop and integrate supporting documentation for all SMC/ZA Model upgrades, as well as provide any additional required on-line or off- line documentation in support of the ZA Model User Groups as required for maintaining the status of ZA Models in the AFSPC/USSF and AF Standard Analysis Toolkits (CDRL: 020).

4.2.6.6 TRAINING

The Contractor shall develop and conduct SEAS courses IAW the SMC/ZA Model Management Charter and according to Government direction. The Contractor shall develop, update, and maintain training materials for SEAS beginner and advanced training courses at the discretion of the model manager. The audience for Training will include SMC/ZA Officers and Civilians as well as FFRDC and Other User Representatives from the Government. SETA employees are not included. These courses should correspond to the most recent releases(s) of the software. These courses shall be either instructor-led or pre-recorded video scenario-based academic sessions, consisting of individual training manuals, checklists, PowerPoint slides and hands-on exercises with SEAS or any other SMC/ZA Tool in the repertoire that is of current interest of SMC/ZA (example, AFSIM, Sparx EA, etc.). The Contractor shall develop these courses so that they can be tailored to the specific audience. The instruction shall take place at a Government approved facility. (CDRL: 003, 012).

4.2.6.7 TESTING AND VERIFICATION, VALIDATION, & ACCREDITATION

The Contractor shall use Contractor best practices for Testing, Verification and Validation (V&V) of any upgrades to any Government-owned software SMC/ZA uses, subject to Government acceptance. Contractor shall support Government efforts to get certification from Air Force Network Integration Center (AFNIC) of the Air Combat Command or any other required accreditation agencies for any Government-owned software Government uses in SMC/ZA. (CDRLS: 011, 014)

4.2.6.8 SYSTEM INTEGRATION OF SMC DIGITAL ENGINEERING CAPABILITY

The Contractor shall devise internal integration of SMC/ZA Models into the SMC/ZADM Decision Support Lab (DSL) (see description in Abbreviations below) as well as into other Government sites such as the SMC Cloud applications developed by the SMC Digital Engineering organization in SMC/ZA and SMC Corps. The Contractor shall process the data across all classification domains (such as Secret and higher) as required. This support shall include functional installation, set-up, and maintenance of SMC/ZA Mod Sim software on the DSL network and Hanscom AFB Mil Cloud or (HMC) any other Digital Engineering Ecosystem SMC participates in. (CDRLS: 004, 010, 020)

4.2.6.9 WEBSITE

The Contractor shall, at the direction of the Government develop, maintain, and host an unclassified ZA Models website to provide the latest information on SEAS and other SMC Models news and versions to the User community, as directed by the Government. Functionalities include enabling

users to share data on projects, providing a users' forum capability, an online documentation area, an SMC/ZA Models Request function, a digital or manual distribution mechanism for the most recent versions, a bug reporting function, an SMC/ZA Models Tools overview, and Contact information for both Government and Contractor Points of Contact (POC), as directed by the Government. (CDRL: 015).

4.2.6.10 ANALYSIS SOFTWARE DELIVERY & REPOSITORY

The Contractor shall, at the request of the Government, deliver analysis software developed to answer study questions. Analysis software is the end product used in ZA Models to build a military utility analysis scenario. The analysis software shall be functional in the current SMC/ZA Model version or versions, free of bugs. The Contractor shall maintain the Analysis Software Repository on the Government networks always commensurate with the appropriate classification level. (CDRLS: 010, 016).

4.2.6.11 SMC/ZA MODELS DATA RIGHTS

IAW Department of Defense Federal Acquisition Regulation Supplement (DFARS) 252.227-7013 and 252.227-7014, and further stated in this PWS for clarification, the Contractor and its subcontractors acknowledge the Government's unlimited rights for all SEAS or other Government-owned Models' related technical data that exists and will be developed under this contract. Consistent with the scope in this PWS, the Government will request the Contractor to disseminate SEAS and Other Government-owned Source Code and related documentation to Government, DoD Contractors and Aerospace Corporation personnel. (CDRLS: 010, 013)

4.2.7 CONTRACTOR MS&A PROGRAM MANAGEMENT PLAN

Contractor shall submit a comprehensive Task Order Management Plan (TOMP) for MS&A. (CDRL: 001) Contractor shall make a Monthly status report as part of the PM Plan. (CDRL: 002)

4.3 SYSTEMS ENGINEERING MANAGEMENT

All direct labor support for this effort will be primarily located at LAAFB

The Contractor shall provide SoS Engineering Management functionality guided by the ZA's Chief Engineer or equivalent. This will provide for the ZA Director's technical oversight of all processes and products within ZA.

The Contractor shall conduct SoS engineering management "analysis" and provide the "control" of ZA engineering processes to ensure disciplined processes are in place and pedigreed and highly credible products are being generated within ZA. In the future, this may include development of a capability to procure, use, and maintain third-party Model-Based Systems Engineering software and tools.

4.3.1 SYSTEMS ENGINEERING ANALYSIS & CONTROL TASKS

The tasks performed shall include analyzing downward directed acquisition legislation, directives, and letters, including the systems engineering processes and systems engineering management processes, understanding the current Government and industry specifications, and tailoring those

guidance elements to processes appropriate for ZA's needs. The Contractor shall define, document, and assess the oversight processes used by ZA in the conduct of configuration management, systems engineering, Systems Engineering Plan preparation, Risk Management, Interface Management, systems safety, Test and Evaluation (T&E), and systems security.

The Contractor shall also participate in the analysis and assessment of technical documents produced by ZA's divisions from these process perspectives. When necessary, the Contractor will help tailor ZA processes into ZA division-level processes for individual products. The Contractor shall participate in the systems engineering management and oversight function for the ZA/Director by supporting technical reviews and documenting command media. Trade studies and effectiveness analysis, traditionally performed as part of the systems engineering management function, will be performed as part of Section ~~4.1~~ 2 Cross-Enterprise Architecting ~~but in coordination with the described efforts in Section 7.2.9~~. Data Management, also traditionally part of the systems engineering management function, will be shared with the Section 4.4 Integration function as part of developing and sustaining a Knowledge Management (KM) system. (CDRLS: 004 and 020)

4.4 INTEGRATION

The Contractor shall provide integration of Section 4.1 Cross-Enterprise Architecting and Section 4.3 System Engineering Management efforts to ensure knowledge gained by the Government is efficiently maintained and transferred from inception of analysis through decision support product delivery and eventual archival. The Contractor shall assist the Government in ensuring synchronization of all acquisition skill sets (e.g. oversight and review, contracting, technical, financial management, etc.). The Contractor will ensure the maintenance of an Integrated Master Schedule (IMS) to assist in integration efforts. The Contractor will be expected to perform these tasks from the cross-enterprise level down to the Integrated Product Team (IPT) level, as required, to assist ZA with ensuring transparency and synchronization of all ZA's programs. (CDRLS: 002, 004, 005, 006, 019)

4.4.1 KNOWLEDGE MANAGEMENT ENVIRONMENT

All direct labor support for this effort will be primarily located at LAAFB.

The Contractor shall develop and sustain a collaborative, integrated KM environment leveraging existing web-based technologies (e.g., SharePoint, "Wikipedia- like" sites, etc.) and providing quick and easy access to Section 4.1 Cross-Enterprise Architecting and Section 4.3 Systems Engineering Management products. The Contractor shall enable information "owners" to provide timely updates, ensure information accuracy, and customize data views. Additionally, the Contractor shall routinely update technical transition plans to address changes to all factors. The Contractor shall coordinate work with Government or FFRDC-owned KM systems to enable the KM functionality with an emphasis on practical applications of the KM system to deliver ZA products more efficiently. (CDRLS: 002, 004, 005, 011)

4.4.2 HQ AFSPC/USSF LIAISON SUPPORT

All direct labor support for this effort will be primarily located at PAFB.

The Contractor shall provide liaison support between AFSPC/USSF/ESAO/S5/S9, SMC/ZA, SSDP

and other entities to help align, inform and collaborate on NSS strategy, architectures and investment opportunities.

The Contractor shall support AFSPC/USSF and SMC/ZA meetings, as needed by the Government, to discuss any issues, questions or other topics related to the development of the architecture, concept development, wargames & exercises, and analysis plans. These meetings will prioritize critical issues and enhancements, determine required collaboration, assignment and delegation of work between Contractor and Government personnel.

The Contractor shall provide staff work as assigned by AFSPC/USSF and SMC/ZA, to include developing strategy documents, briefings, white papers, etc., for internal and external AFSPC/USSF and SMC needs at varying classification levels. Classification of the effort will include Unclassified, Top Secret/SCI and Special Access Program/Special Access Requirements SAP/SAR levels. (CDRLS: 002, 005, 006, 018, 020)

4.4.2.1 SUPPORT TO AFSPC/S5

The Contractor shall provide direct support to AFSPC/S5 and SMC/ZA by attending AFSPC/USSF working/process groups and working with HQ leads to capture capability requirements and HQ staff needs, provide insight into SMC/ZA products/processes/capabilities/perspectives, and stratify organizational priorities.

The Contractor shall support strategy, architecture and analysis development efforts, to include requirements, PRB, IPL, POM and other staff processes to inform risk-based investment decisions, as directed by the Government lead at various classification levels.

4.4.2.2 SUPPORT TO AFSPC/S9

The Contractor shall provide direct support to AFSPC/S9 efforts and coordinate the development of an overarching Analysis Roadmap and Execution Plan addressing how AFSPC/USSF will manage, oversee and coordinate all analysis efforts supporting AFSPC/USSF space architectures, including associated ground, on-orbit and command & control developmental, production and budgetary decisions.
The Contractor shall develop a work plan that outlines a milestone iterative approach to the development of this analysis roadmap and plan. The plan shall identify the schedule for key activities and organizational responsibilities for AFSPC/USSF, AF and DoD Space Enterprise analysis efforts, including NSS partners, as appropriate. The plan will outline the specific deliverables for each milestone.

The Contractor shall provide technical analysis support on-site and via reach back to synchronize analysis effort across multiple entities, both internal and external to AFSPC/USSF. This technical support will leverage developed operational and “strategy-to-task” guidance to evaluate available tools, both internal and external to AFSPC/USSF, and develop analysis plans that utilize the best available tools and recommend development of new analysis capabilities where existing capabilities do not meet AFSPC/USSF space enterprise analysis needs.

4.4.3 ACQUISITION SUPPORT

All direct labor support for this effort will be primarily located at LAAFB.

The Contractor shall provide acquisition support to development planning, concept engineering and technology demonstrations, and other programs as required to ensure risk reduction for pre-Milestone B development is efficient. The Contractor shall provide advice, analysis, and recommendations to directly support IPT leads or project managers by establishing an interface between cost, schedule, budget, and technical performance while providing direct functional acquisition support. The Contractor shall establish and maintain communication channels between the acquisition organization and program functional areas including, but not limited to: interface between the program office and cost, schedule, budget, contracting, technical teams, and other program stakeholders. The Contractor acquisition support team shall ensure applicable acquisition guidance is included in acquisition strategy documentation and is integrated with Section ~~4.4~~ 4.3 Systems Engineering Management functions and reflects the outcome of the Architecting as outlined in Section 4.1 analysis processes. The Contractor shall ensure acquisition strategy documentation, including the draft acquisition strategy, TDS, transition plans are documented and placed in the KM system as outlined in Section 4.5.1 and appropriately configuration controlled appropriate expertise for Contractor personnel providing this support will include possessing skill sets derived from multiple disciplines such as: program management, contracting, technical expertise, legal training or experience, price analysis, and budget/cost management. All personnel providing this support must have or be capable of obtaining a Top Secret (TS)//SCI security clearance within 30 days. (CDRLS: 002, 004, 005, 006, 011, 020)

4.5 SECURITY REQUIREMENTS

All direct labor support for this effort will be located at LAAFB.

4.5.1 ACQUISITION SYSTEMS PROTECTION & INTERNATIONAL PROGRAM SECURITY

The purpose of Acquisition Systems Protection and International Program Security is to deny adversaries' access to Critical Program Information.

The Contractor shall integrate all security disciplines, counterintelligence and other defensive methods to deny foreign collection efforts and prevent unauthorized information disclosure; facilitate program protection planning efforts; identification of critical program information, technologies, systems or resources; technology assessments and control plans; international program security materials; system security engineering; anti-tamper; security classification guides; program protection cost estimates and other materials in support of program protection; conduct information, technology, systems threat, vulnerability, and security risk assessments; develop candidate protection countermeasures to security vulnerabilities of the system and subsystem concepts, operations and designs; facilitate AFSPC/USSF Inspector General security inspection activities for IA and Program Protection Plans (PPPs); and notify the Program Manager when a security issue arises. (CDRL: 002)

The Contractor shall provide outcomes of these tasks, updates, and recommendations via briefing to

the Program Manager by the negotiated deadline established between the Contractor and the Project Office.

The Contractor shall safeguard SMC national security space system acquisitions as defined in DoD, AF, AFSPC/USSF, and AF Program Executive Officer for Space (AFPEO/SP) policies and instructions outlined in this task order's DD254 as required.

4.5.2 PERSONNEL SECURITY

On a continual basis, the Contractor shall monitor and document status of all the security clearances of SMC/ZA Government personnel (military/civilian) within the Joint Personnel Adjudication System (JPAS) system (or appropriate system) and notify the individuals (and their supervisor) of upcoming security re-investigations prior to the expiration of each clearance; review all security clearance investigation packages; prepare, review and process interim security clearance request packages; review the current SMC/ZA Unit Manning Document and verify the appropriate Security Access Requirement code matches the security clearance level of the individual(s) assigned to the position, as shown in JPAS; and review and process Sensitive Compartmented Information (SCI) requests for ZA personnel. (CDRL: 002)

The Contractor shall archive, safeguard and disposition personnel security reports and records; conduct training for Electronic Questionnaire for Investigations Processing completion; prepare and transmit a Foreign Visit notification to SMC/IN Foreign Disclosure Office; process outgoing foreign travel requests through the Aircraft and Personnel Automated Clearance System (APACS) and screen each travel for the transfer of military information; monitor APACS daily until travel is approved and report to the traveler; prepare, conduct and document in/out-processing actions, personnel security training, foreign travel briefings, SCI/SAP debriefings and Top Secret Attestations; and process Non-disclosure Agreements for SMC/ZA Government personnel.

The Contractor shall complete all Personnel Security actions as required and IAW DoDI 5207.2 vol 2, the Foreign Travel Guide, ICD 704, DoD 5200.2-R, DoD 5400.7-R, AFI 31-501, AFI 33-131, AFI 33-3322, and SMC/ZA Security Operating Instructions as applicable.

4.5.3 INDUSTRIAL SECURITY

The Contractor shall review incoming visit requests, prepare outgoing visit requests for SMC/ZA personnel; verify security clearances for both SMC/ZA and visiting personnel in support of classified meetings and discussions; review draft, interim, revised/modified and final DD Form 254s; perform an annual review of DD Form 254s; and prepare Visitor Group Security Agreements for classified SMC/ZA contracts. (CDRL: 002)

The Contractor shall complete all Industrial Security actions as required and IAW AFI 31-601 and SMC/ZA Security Operating Instructions as applicable.

4.5.4 INFORMATION SECURITY

The Contractor shall review the SMC/ZA Security Operating Instructions and Emergency Action Plan annually, assess changes in technologies, threats, vulnerabilities, risks, operations, countermeasures and capabilities; document findings and submit inputs/changes for approval and integration. (CDRL: 002)

The Contractor shall conduct training for SMC/ZA personnel on the handling, marking, safeguarding and accountability of classified information; conduct an annual inventory of SMC/ZA Top Secret holdings; issue and control DD Form 2501, Courier Cards; prepare courier authorization letters; prepare official courier designation letters, courier instructions and exemption letters for personnel couriering on commercial aircraft; complete an AF Form 2587, Security Termination Statement for Government personnel; and schedule and monitor quarterly SMC/ZA classified document destruction.

The Contractor shall complete all Information Security actions as required and IAW DoDI 5200.01-R, DoD 5200.1 PH, DoD 5200.1 PH-1, AFI 31-401 and SMC/ZA Security Operating Instructions as applicable.

4.5.5 OPERATIONS SECURITY

The Contractor shall conduct an annual review of the SMC and SMC/ZA Critical Information Lists (CILs), SMC/ZA Operations Security (OPSEC) Plan based upon changes in technologies, threats, vulnerabilities, risks, operations, countermeasures and capabilities; maintain, publish and distribute the approved SMC/ZA OPSEC plan, SMC and SMC/ZA CILs; conduct an annual OPSEC assessment; measure OPSEC program effectiveness; utilize the OPSEC Core Capabilities Checklists; conduct OPSEC assessments of information, plans, exercises, demonstrations, briefings, papers, web pages and articles submitted for publication or releasable to the public; and prepare, conduct and document OPSEC training for all ZA personnel. (CDRL: 002)

The Contractor shall complete all Operations Security actions as required and IAW DoDD 5205.02, AFI 10-701, applicable security classification guides and SMC/ZA Security Operating Instructions as applicable.

4.5.6 COMMUNICATIONS SECURITY

The designated Contractor Communications Security (COMSEC) Responsible Officers (CROs) shall transport COMSEC materials and equipment between approved locations; access, handle, store and use COMSEC materials and equipment; perform a monthly audit of data transfer device logs with the primary COMSEC accounts; review and report on the status of the SMC/ZA COMSEC control access lists monthly; request, schedule, receive and destroy superseded COMSEC materials; and rekey COMSEC equipment and annotate records; and conduct secure voice device training. (CDRL: 002)

The designated Contractor CRO shall report transportation incidents, COMSEC material incidents, procedural violations, and discrepancies to the COR as soon as practicable and forwarded to the responsible office for action.

The designated Contractor CRO shall complete all COMSEC actions as required and IAW DoDI

8523.01, DoDI 8560.01, AFI 17-130, and SMC/ZA Security Operating Instructions as applicable.

4.5.7 PROGRAM PROTECTION PLANNING

The Contractor shall review ZA PPPs annually IAW DoDI 5200.39, DoDI 5200.1-M, AFPAM 63-1701, and document findings in a Comment Resolution Matrix within five business days. (CDRL: 002)

4.5.8 PHYSICAL SECURITY

SMC/ZA secure facilities at LAAFB include three Sensitive Compartmented Information Facilities (SCIFs), two Special Access Program Facilities (SAPF), and twelve secure rooms.

The Contractor shall update , maintain, and submit access control lists for each ZA secure facility; update and maintain lock/safe combinations for each ZA secure facility; provide open/close training and document in the SMC/ZA personnel security folder; review the Fixed Facility Checklist, Physical Security Plan and the Telecommunications Electronics Materials Protected from Emanating Spurious Transmissions (TEMPEST) addendum for each SMC/ZA SCIF annually; conduct semi-annual alarm tests and response force testing for the ZA secure & SCIF facilities; open and close facilities; escort visitors; maintain and archive AF Form 1109s; perform routine inspections, end-of-day checks, random searches of personnel & equipment entering/exiting facilities; and report security equipment malfunctions for ZA secure facilities from 0700-1600 each duty day. (CDRL: 002)

The Contractor shall report test results, equipment malfunctions, procedural violations, incidents and discrepancies to the COR as soon as practicable and forwarded to the responsible agency for action. All Physical Security actions will be completed as required and IAW DoDI 5207 vol 1-4, DCID 6/3, DCID 6/9, ICD 503, ICD 704, DoD 5105.21-M1, DoD SCI Administrative Security Manual, AFI 31- 101, AFI 31-209, SMC Instruction 36-107 and SMC/ZA Security Operating Instructions as applicable.

4.6 MODELING, SIMULATION & ANALYSIS ENVIRONMENT

All direct labor support for this effort will be located at LAAFB.

The scope of this task encompasses systems integration, cross-enterprise integration, wargaming/exercise/demonstration; classified and unclassified integration, hardware and software design engineering, classified and unclassified experimentation, small experimentation, MS&A, MS&A environment/infrastructure – Unclassified Decision Support Lab (UDSL), Secret Decision Support Lab (SDSL), Top Secret Decision Support Lab (TS-DSL), SMC/ZA Defense Research Engineering Network (ZA DREN), SMC/ZA Secret Defense Research Engineering Network (ZA SDREN), and ZA Distributed Interactive Simulation Network (ZADISNet).

4.6.1 MS&A ENVIRONMENT SUPPORT

The Contractor shall provide daily operation support such as data transfer, equipment setup, checkout/adjustment, and software/hardware installation/maintain. (CDRLS: 002, 004)

The Contractor shall integrate possibly disparate modeling and simulation tools into the MS&A environment to support compatible operation in standalone or integrated modes with consistent scenarios. (CDRLS: 002, 004)

The Contractor shall maintain the MS&A environment (classified/unclassified). Work in this area can range from implementation of the networks to the activation of discrete data circuits using existing military or commercial communication systems. Typical hardware for the MS&A network include optical, Asynchronous Transfer Mode, Ethernet, Synchronous Optical Networks, digital and analog devices, servers, routers, bridges, hubs, concentrators, switches, and firewalls. The contractor shall be required to design and install MS&A network systems in compliance with COMSEC, Emission Security, and other IA guidelines specific to each system installed. (CDRLS: 002, 004, 011)

The Contractor shall ensure disaster recovery / continuity of operations are addressed as part of the system architecture process and all issues are coordinated. (CDRLS: 002, 004)

The Contractor shall install new hardware and software upgrades and ensure license renewals and annual maintenances are kept current. Provide enterprise and off-site support to ensure the continuous availability of MS&A systems, manage and operate a configuration management program and ensure compliance with applicable directives, policies, and guidelines and generally accepted sound configuration management standards and practices. (CDRLS: 002, 004, 011)

The Contractor shall design, test, and implement a robust, reliable, and secure information technology environment ensuring the availability, integrity, and confidentiality of data. (CDRLS: 002, 004, 011)

4.6.2 MS&A ENVIRONMENT HELP DESK SUPPORT

All direct labor support for this effort will be located at LAAFB.

The Contractor shall provide help desk support for MS&A IT systems. The help desk shall be the focal point for all customer contact including problem resolution, service resolution, service requests and general inquiries. Currently both contractor and Government personnel support the help desk.

The Contractor shall provide the services during the core hours (0600 – 1800 Monday through Friday except federal holidays). On occasion, the Contractor may be requested to provide the services outside of core hours. (CDRLS: 002, 004)

The Contractor shall manage user accounts for the ZA MS&A networks. Account management

includes creating, deleting, and modifying user accounts and setting user access privileges when formally requested by the government. (CDRLS: 002, 004)

The Contractor shall provide daily operation support such as data transfer, equipment setup, checkout/adjustment, and software/hardware installation/maintain. (CDRLS: 002, 004)

4.7 CYBERSECURITY

All direct labor support for this effort will be located at LAAFB.

4.7.1 CYBERSECURITY SUPPORT

The Contractor shall complete annual reviews, updates, certifies and reaccreditations for all classified and unclassified network systems, stand-alone systems and Video Teleconferencing (VTC) systems, and mission systems.

The Contractor shall keep up-to-date at all times the ZA VTCs, ZA MS&A networks - SDSL, UDSL, ZADISNet, TS-DSL, ZA DREN, ZA SDREN, and mission system project (System Security Authorization Agreement and/or DoD IA Certification, System Security Plan, DoD IA Certification and Accreditation Process, and RMF. (CDRLS: 002, 004)

The Contractor shall register all ZA VTCs, ZA Mission /MS&A Information Systems in the Enterprise Information Technology Data Repository/Enterprise Mission Assurance Support Service and perform updates as required. (CDRLS: 002, 004)

The Contractor shall assist the government official to schedule and conduct all Staff Assistance Visits annually or as required in ZA and all associated facilities. The Contractor shall also conduct the re-inspections of units with findings during the initial Staff Assistance Visit in order to close out the inspection process. (CDRLS: 002, 004)

The Contractor shall conduct an annual review of the applicable IA controls established for the SMC/ZA networks/systems and perform validation procedures on those controls IAW AFI 17-130, DoDI 8500.01, DoDI 8510.01 and the Federal Information Security Management Act reporting requirements. Deviations from the certification & accreditation posture shall be reported to the COR as soon as practicable, forwarded to the responsible office for action and documented in the monthly status report (subject to security and privacy restrictions). (CDRLS: 002, 004)

The Contractor shall conduct research and analysis to assess ZA IA security posture and impact of new systems, devices, and programs mandated by AF/AFSPC/USSF/Air Force Network Operations Center/DoD/ Defense Intelligence Agency (DIA)/Air Intelligence Agency (AIA). (CDRLS: 002, 004, 020)

The Contractor shall conduct follow-up Internet Security Scan/Retina Scans to ensure vulnerabilities identified are mitigated. The Contractor will work with Integrated Network Operations and Security Center (I-NOSC) West (561 NOS)/DIA to document and/or remove negative findings. The Contractor will conduct initial scans for software and hardware devices pending network connections

that are pending DAA Approval. (CDRLS: 002, 004)

The Contractor shall monitor and maintain the Vulnerability Management System by entering all closed Technical Compliance Network Orders into the Defense Information Systems Agency (DISA) database and closing out SCAP, and ACAS scan findings as identified by DIA, AIA, DISA and I-NOSC West. (CDRLS: 002, 004)

The Contractor shall track progress and provide status on all Classified Message Incident activities IAW established AF guidelines. (CDRLS: 002, 004)

The Contractor shall conduct research of regulatory requirements and assist Government in creating local operating instructions, policy memos, and supplements to AFIs. (CDRLS: 002, 004)

4.8 TECHNICAL ACQUISITION/PROGRAM PLANNING

The majority of direct labor support for this effort will be located at BAFB with additional support located at LAAFB.

Using personnel with at least a TS/SCI Clearance, on a continual basis, the Contractor shall evaluate all of the Directorate programs' solicitation technical documentation, Systems Engineering Plan (SEP), Integrated Master Plan (IMP), Integrated Master Schedule (IMS), and CDRL for compliance with applicable SMC, AFSPC/USSF, Headquarters Air Force (HAF) and DoD policies, guidance, and instructions. The evaluation shall ensure consistency in the implementation of its acquisition strategy, technical approach and requirements, acquisition policy and guidance, milestones, forecasts, and risk assessment. The evaluation shall ensure realism in achieving a product suitable for the war-fighter within cost, schedule, and performance constraints. The Contractor shall then collect, analyze, store, and distribute acquisition "lessons learned" from SMC and other organizations to promote increased efficiencies, timeliness, and effectiveness in the Directorate. The Contractor shall provide a written technical assessment in accordance with the CDRL. (CDRL: 004)

4.8.1 PROGRAM PLANNING IMPLEMENTATION SUPPORT

Using personnel with at least a TS/SCI Clearance, the Contractor shall assess whether the acquisition plans, acquisition strategies, capability documents, and solicitation documents are accurately reflected in the technical aspects of the programs as defined in the Space Based Infrared System (SBIRS) and Weather SEPs, Cost Analysis Requirements Documents (CARD), technical requirements documents (TRD), compliance standards, IMPs, IMSs, and all applicable management plans (e.g., configuration management plan, Programmatic Environment Safety, and Occupational Health Evaluation (PESHE), integrated support plans, test & evaluation master plans) and for compliance with AFI 63-101/20-101, SMC-G-1201, SMC-S-001. The assessment shall identify and document any discrepancies, inconsistencies, and conflicts between the documents. The Contractor shall recommend potential courses of action to resolve the identified conflicts and upon the corresponding Task Lead(s) approval(s), coordinate with the involved parties to facilitate updating the affected documents. This

review shall be performed for each space and ground segment program in the base period of this Task Order, in accordance with the CDRL. (CDRL: 005)

4.8.2 ASSESSING POLICY COMPLIANCE

Within 60 days after Task Order award and using personnel with at least a TS/SCI Clearance, the Contractor shall compare and analyze the Directorate missions, vision, goals, policies, and instructions in compliance with AFI 63-101/20-101, SMC-G-1201, SMC-S-001, and the SBIRS and Weather SEPs and provide recommendations on strategies and techniques to implement existing and future policy changes. The Contractor shall also perform this task whenever a major program policy change is received (historically every 6 months). The Contractor shall provide a written technical assessment in accordance with the CDRL. (CDRL: 004)

4.8.3 SPACE AND GROUND DEVELOPMENT AND PRODUCTION

Using personnel with at least a TS/SCI Clearance, on a weekly basis, the Contractor shall use the results of PWS para ~~3.3.1.2.2~~ 4.8.2, "Assessing Policy Compliance," to analyze all of the space and ground system program plans, current development, test and evaluation, block upgrades, operations and sustainment, and program requirements in compliance with AFI 63-101/20-101, SMC-G-1201, SMC-S-001, and the SBIRS and Weather SEPs. A written analysis shall be provided in accordance with the CDRL. (CDRLS: 004, 005)

4.8.4 LAUNCH

Using personnel with at least a TS/SCI Clearance, on an as needed basis, the Contractor shall participate in day-of-launch rehearsal activities, mission readiness reviews, space flight worthiness preparations and presentations, mission certification, Early On-orbit Test (EOT)/test coordinator training, Satellite Vehicle (SV) shipment coordination and transportation support, factory activities, provide directorate interaction to on-orbit Contractor support, and provide launch-base planning, preparation, and sustainment required for launch- base processing flow. The Contractor shall support review, edit, update, and coordination of all documentation (e.g., launch-related mission unique proposals) required to assist the government in facilitating the execution of the next launch.

4.8.5 TEST AND EVALUATION

Using personnel with at least a TS/SCI Clearance, on a continual basis, the Contractor shall monitor and facilitate Program Contractor test activities (estimated at five (5) per month) for compliance with AFI 99-103, AFSPCI 99-103, and SMC-S-001 and contract requirements. Upon completion, the Contractor shall provide the results in accordance with the CDRL on a weekly basis. Personnel assigned to complete work on this paragraph shall be available on the first day of TO award. (CDRLS: 004, 005)

Using personnel with at least a TS/SCI Clearance, the Contractor shall review Program Contractor and Government T&E planning documentation (e.g., requirements, plans, schedule) and presentations (e.g., test reviews, readiness reviews) to confirm all work required to successfully complete test and evaluation is captured and reported accurately in the requirements, plans, schedule, etc, including the methods of analysis, limitations of scope, adherence to plan, references to other work, and conclusions drawn.

Using personnel with at least a TS/SCI Clearance, the Contractor shall review program T&E results and associated analysis for rigor, proper application of analytical techniques, legitimacy of conclusions, and thoroughness of reporting.

4.8.6 SOFTWARE ENGINEERING

Using personnel with at least a TS/SCI Clearance, on a continual basis, the Contractor shall monitor, identify, document and report technical discrepancies relating to software engineering tasks in software acquisition planning, acquisition strategy panels, computer resource working groups, software risk analyses, functional and physical configuration audits, specification and requirements review and development, test plans and procedures review, design and simulation analyses, interface control document reviews, performance predictions, margin and timing analyses, Contractor proposal reviews, code, design and data flow reviews, software capability assessments, and software quality assurance for compliance with AFI 99-103, AFSPCI 99-103, and SMC-S-001. Upon completion, the Contractor shall provide the results in accordance with the CDRL on a weekly basis. (CDRLS: 004, 005, 006)

4.8.6.1 SPACECRAFT, PAYLOAD, AND GROUND SOFTWARE

Using personnel with at least a TS/SCI Clearance, on a continual basis, the Contractor shall monitor, identify, document and report, for compliance with contract requirements, SMC-S-001, and the SBIRS and Weather SEPs, technical discrepancies relating to the spacecraft flight software subsystem (FSS), database, and hardware/software integration activities, payload flight software (Flight Software (FSW), Pointing and Control Assembly (PCA) FSW, and Signal Processing Assembly (SPA) FSW), and ground software subsystems, including Tracking, Telemetry & Control (TT&C), Ground Control, Mission Management and Services, database, and Hardware/Software integration activities for obsolescence issues and onboard Geostationary Orbit (GEO) and Highly Elliptical Orbit (HEO) payload maintenance. Upon completion, the Contractor shall provide the results accordance with the CDRL. (CDRLS: 004, 005, 006)

4.8.7 COMBINED TASK FORCE SYSTEMS SUPPORT

Using personnel with at least a TS/SCI Clearance, on a continual basis, the Contractor shall monitor, identify, document and report, for compliance with EMD, DOSSC, DSC, GEO 5/6 and SFP contract technical requirements, SBIRS SEP, and SMC-S-001, technical discrepancies from USAF Space OPIR

and Missile Defense Integration (MDI) Contractor and Government agency activities relating to on-orbit system test planning, resource allocation, execution and operational command handoff activities. The Contractor shall document any technical discrepancies, lessons-learned, and develop three (3) potential solutions to include recommendations for Government program management action, and upon completion, provide the written analysis to the corresponding COR(s). Upon completion, the Contractor shall provide the results in accordance with the CDRL on a monthly basis. Personnel assigned to complete work on this paragraph shall be available on the first day of TO award, per paragraph 4.2 of this PWS. (CDRLS: 004, 005)

4.9 SYSTEM OF NETWORKED AGILE PATHWAYS IN SPACE (SYNAPSE)

Formerly Space Combat Cloud (SCC), SYNAPSE is a pursuit of resilient enterprise capability through multi-path diversity with interoperable communication and network standards for assured data transport. In partnership with industry, SYNAPSE enables interoperability through space based communications for path diversity, develops a resilient battlefield network, and relieves the reliance on dedicated ground infrastructures.

4.9.1 SYNAPSE SUPPORT

The contractor shall have relevant resilient enterprise capability expertise to include experience in contested-space resilient space systems and measures and threat-based and/or contested-space work and initiatives.

The Contractor shall facilitate, monitor, and support ongoing and planned acquisition activities to include, but not limited to; monitoring implementation, reporting any requirement shortfalls, and providing risk mitigation and impact assessments.

The Contractor shall recommend acquisition process improvements based upon the latest Better Buying Power (BBP) guidance and other space system acquisition methods and processes.

All work conducted by the Contractor shall be developed using the latest applicable government guidance (ex. MIL-STD). (CDRLS: 004, 005, 006, 020)

4.9.2 JOINT CAPABILITIES INTEGRATION DEVELOPMENT SYSTEMS (JCIDS) LIFE CYCLE SUPPORT

The Contractor shall provide space acquisition engineering, technical advice and assistance for all applicable programs during the acquisition life cycle including pre-acquisition, concept exploration, technology development, system development, procurement, integration, test, Developmental Test (DT)/Operational Test (OT) and analysis, reliability and operational performance, programmatic, operations and deployment, program protection, sustainment, mission assurance, anomaly resolution, failure investigation, sustainment, and contract administrative support.

The Contractor shall help develop required JCIDS documentation to include (but not limited too) Initial Capability Document (ICD), Interface Control Document (ICD), Capability Development Document (CDD), Capability Production Document (CPD), Milestone Documentation, Defense Acquisition Board (DAB) documentation, POM positions, Test and Evaluation Master Plan (TEMP)

and other test and evaluation documentation, Technical Requirements Document (TRD), System Requirements Document (SRD), and other acquisition and development documents as required.

4.9.3 SYSTEM ENGINEERING LIFE CYCLE SUPPORT

The Contractor shall provide Systems Engineering (SE), requirements development, program management, requirements verification planning, test and analysis, program protection, and mission assurance support as required to support program office and mission objectives.

The Contractor shall review and provide input on design documentation (Technical Requirement Document's (TRD), System Requirement Documents (SRD), specifications, Interface Control Documents (ICD), capability requirements documents, Initial Capability Documents (ICDs), Capability Development Documents (CDD), Capability Production Documents (CPD), enabling concepts, Analysis of Alternatives (AoA), Concepts of Operations (CONOPS), test plans, system training plans, training material, other technical documentation for space systems, subsystems, and related systems.

The Contractor shall work specifications ranging from technology development and demonstrations to operational ground, space, and space related systems.

The Contractor shall provide analytical and operational engineering technical expertise to support mission protection, operations, mission data assessments, and Battle Space Awareness Management Command Control and Communications (BMC3).

4.9.4 SUPPORT

The Contractor will support various Government actions and activities to include but not limited to integration, test, technical issues, and external agencies.

4.9.4.1 INTEGRATION SUPPORT

The Contractor shall identify and help resolve interface and integration problems. Tasks shall include but not be limited to coordinating resolution of program issues and facilitating effective integration of requirements and efforts with other acquisition and sustainment activities. This may include internal system interface issues as well as external interface issues with multiple government, industry, research, FFRDC/UARC, and academic organizations.

4.9.4.2 TEST SUPPORT

The Contractor shall support development of test requirements, plans, and analyses for both Developmental Testing (DT) and Operational Testing (OT) and provide engineering expertise in order to evaluate test data. (CDRLS: 004, 005, 006, 020)

4.9.4.3 TECHNICAL ISSUE SUPPORT

The Contractor shall support resolution of technical anomalies. The Contractor shall interface with the Government, FFRDCs and industry counterparts, in order to facilitate and support resolution of technical/programmatic issues.

4.9.4.4 EXTERNAL AGENCY SUPPORT

The Contractor shall provide acquisition, financial, and contractual guidance to Government counterparts. These tasks include but are not limited to assisting in developing, reviewing, and evaluating: acquisition strategies, technology developments, Memorandums of Agreement (MOAs), Memorandums of Understanding (MOUs), impact analysis, audits, studies, compliance inspections, and readiness reviews. (CDRLS: 004, 005, 006, 020)

5.0 ADDITIONAL CONSIDERATIONS

5.1 TASK ORDER MANAGEMENT

The Contractor will not be provided on-base office space for the purpose of task order management, including but not limited to contractor's personnel & contract management, financial management, and indirect charge employee support. (CDRL: 001)

5.1.1 QUALITY OF SUPPORT/SERVICE

The Contractor shall accomplish tasks by providing qualified personnel possessing the appropriate combinations of education, training, security clearance and experience/skills. The Contractor shall utilize labor rates and man-hours necessary to accomplish the requirements as outlined in Section 3.0. Additionally, the Contractor shall provide qualified replacement/ substitute personnel which meet or exceed the same standards.

5.1.2 TRANSITION IN-PLANNING

The Contractor shall be given a transition period of no more than 15 days to conduct administrative matters and provide qualified personnel that meet or exceed the stated qualification requirements per Section 4.0 Performance Requirements – Baseline and Surge. An administrative transition plan shall be submitted as part of the Task Order Management Plan (TOMP). The transition period is from the contract award date to the start date of performance. The Contractor shall adhere to the transition plan submitted in the proposal and attached to the task order and shall inform the CO, COR, and program manager of progress throughout the transition period. (CDRL: 001)

5.1.3 TRANSITION OUT-PLANNING & FUTURE CONTRACTS

The Contractor shall participate in organizational, system, process and information knowledge transfer from the Government program office team (Government, FFRDC, SE&I and A&AS members), to include 30 days of overlap with existing Contractors, as applicable.

The Contractor shall facilitate organizational, system and process knowledge and information transfer from the Contractor to any new Contractors or Government entities performing portions of this contract during the close out of this contract. A transition out plan must be provided as part of the TOMP to the CO, COR, and program manager to track progress of administrative matters and provide adequate transition training to the follow-on Contractor. (CDRL: 001)

5.1.4 KICK-OFF MEETING

The Contractor shall be available to attend the kick-off meeting with the CO, COR, and program

manager and the division representatives within two (2) weeks of Contract Award. The Contractor shall coordinate the date, time and location via e-mail notification with the CO.

5.1.5 MANAGEMENT OF PERSONNEL

The Contractor shall provide for all management and support of personnel. The Contractor shall maintain a stable workforce while minimizing the impact of any turnover and/or disruptions to the Government and/or mission. The Contractor shall ensure continuation of services during personnel absences due to sickness, leave, and voluntary or involuntary termination from employment such that there is no negative impact to the Government mission. Upon notification of a pending vacancy of key personnel, the Contractor shall provide written documentation to the COR within five (5) business days. In the case of a no-notice departure, the Contractor shall immediately inform the COR. This written notification shall include the date and time the position will be vacant, anticipated replacement date, and management correction action, if needed, to ensure task mission remains on schedule toward completion. If the vacancy cannot be filled within 30 business days, the Contractor must provide written notification to CO as to why the vacancy has not been filled. (CDRLS: 001, 003)

5.1.6 CROSS-CUTTING SUPPORT

The Contractor shall provide cross-cutting support which optimizes the Government's cost, schedule, and/or performance efficiencies. Cross-cutting personnel may support multiple programs based on their functional expertise.

Cross-cutting support is the integration of standard and surge workload functional expertise to support multiple organizations within ZA. The objective of this cross-cutting support is to maximize Contractor personnel efficiency while minimizing the cost to the Government.

To provide a portfolio level outlook and assist total portfolio management, provide recommendations on ways to enhance the effectiveness of all ZA activities, surge support, and allow workflow support flexibility. The Contractor is responsible for providing effective staffing that directly supports the mission in terms of cost, schedule, performance, and risk.

5.1.7 DIRECTORATE/DIVISION PROGRAM REVIEWS

The Contractor Program Manager shall attend ~~**quarterly**~~ Directorate/Division Program Reviews **as identified/scheduled by the Government**.

5.1.8 IDENTIFICATION

Contractor employees shall clearly identify themselves as "Contractors" at all times. This includes all communications (telephone, mail, electronic mail (email) and faxes), meetings, attendance sheets, and documents. In addition, Contractor personnel shall identify their company affiliation in email signature blocks. All Contractor personnel shall display their identification badge which identifies them as Contractor personnel. (CDRLS: 001, 002, 006)

5.1.9 PLACE OF PERFORMANCE AND DUTY HOURS

The primary place(s) of performance will be at the Government's and Contractor's facilities in El

Segundo, CA and Colorado Springs **and Buckley Air Force Base**, CO. Contractor personnel shall be capable of operating at ZA's facilities in El Segundo, CA and Colorado Springs **and Buckley Air Force Base**, CO within ninety minutes notice during normal duty hours. A limited amount of performance may also take place at other Government facilities ~~**such as those in Colorado Springs, CO**~~.

All contractor personnel supporting security operations must be collocated at the Government's facilities in El Segundo, CA and Colorado Springs, CO as applicable or identified by the Government.

5.1.10 INSTALLATION CLOSURE

On occasion, the Government (Installation or Commander or designee) may close all or part of an installation in response to an executive order, emergency, or other situation, such as but not limited to: adverse weather, a base disaster, earthquake, civil disturbance, security incident, training drill, etc. Contractor personnel shall comply with instructions provided by authorities such as the Commander (or designee), fire, medical, security, or emergency personnel. In the event that the Contractor is prevented from performance, due to the closure of the installation or other circumstance beyond their control, then a limited amount of time may be charged as a direct cost until the Government exercises one of the following options:

The Government may grant a time extension for tasks affected by the closure (or other circumstance), subject to the availability of funds and period of performance limitations.

(a) The Government may forgo the work. The Contractor may not charge the Government for services that are not performed.

(b) The Government may reschedule the work on a day that is agreeable to both parties

(c) The Government may request that the Contractor perform the work at another location, such as the Contractor's facility, during the period of the installation closure (or other circumstance) if it is possible and appropriate. The Contractor shall bill the Government as specified in the GSA contract or this task order.(CDRL: 002)

6.0 TASK ORDER ADMINISTRATION

6.1 BUSINESS RELATIONS

The Contractor shall furnish all management, labor, tools, supplies, and materials (except as provided by the Government) necessary to perform the requirements contained herein, and; the

Contractor shall establish processes and assign appropriate resources to effectively administer the requirement. The Contractor shall respond to Government requests for contractual actions as defined within the request. The Contractor shall have a single point of contact between the Government and Contractor personnel assigned to support task orders. The Contractor shall assign work effort and maintain proper and accurate time keeping records of personnel assigned to work on the requirement.

6.2 MANAGEMENT REVIEWS

The Contractor's single point of contact between the Government and Contractor personnel assigned to support task orders shall conduct quarterly Program Management Reviews (PMRs) with the COR and the CO. The agenda, date, and location of the PMR will be mutually agreed to by SMC/ZA and the Contractor. The Contractor shall take meeting minutes and provide these to the Government to capture action and activities that transpired at the PMR (CDRLS: 002, 005, 006)

6.3 STATUS REPORT

The Contractor shall deliver a Monthly Status Report. The report will close out on the last day of the Contractor's monthly accounting period and be submitted no later than fifteen calendar days after close of the previous Calendar Month. (CDRL: 002)

6.4 SUBCONTRACT MANAGEMENT

The Contractor shall be responsible for any subcontract management necessary to integrate work performed on this task order and shall be responsible and accountable for subcontractor performance on this task order.

The Contractor shall manage work distribution to ensure there is no Organizational Conflicts of Interest. Contractors may add Subcontractors to their team after examination of information that there is no Organizational Conflicts of Interest issue or submission and approval of mitigation plan by the CO.

If a Subcontractor is contracted to perform the work on a requirement, a signed and processed DD Form 254 between the Contractor and Subcontractor may be required before the Subcontractor begins performance on this task order (CDRL: 009)

6.5 eCMRA REPORTS

The Contractor shall report ALL Contractor labor hours (including subcontractor labor hours) required for performance of services provided under this task order via the secure data collection 33 site (i.e. Contract Manpower Reporting Application). The Contractor shall completely fill in all required data fields using the following web address: http://www.sam.gov/. Reporting inputs will be for the labor executed during the period of performance during each Government Fiscal Year, which runs October 1 through September 30. While inputs may be reported any time during the Fiscal Year, all data shall be reported no later than October 31 of each calendar year.

Contractors may direct questions to the eCMRA help desk. (CDRL: 009)

6.6 COST CONTROL

The Contractor shall demonstrate effectiveness in forecasting, managing, and controlling task order costs for Other Direct Costs (ODCs). The Contractor shall provide total accountability, accuracy, disclosure, control, forecasting, estimating, and overall management of all cost-based control activities, including monthly status report, man hour and expenditure report, trip reports, certificates of service, invoices, proposals, and limitation of funds (CDRLS: 002, 007)

6.7 TASK ORDER ACCOUNTING

The Contractor's and subcontractors' task order accounting systems shall provide unit-level traceability of all cost reimbursable elements (travel, supplies/materials, computer lease charges and

ODCs by unit price where practicable) to individual task order funding citation's Accounting Classification Reference Number if requested. (CDRLS: 002, 003, 021)

6.8 TEMPORARY DUTY TRAVEL

The Contractor may be required to travel using commercial air, Government air, and other conventional modes. Travel arrangements will be based on individual tasks, and the cost of travel will be directly reimbursed from task funding. All travel (Outside Continental United States and Continental United States) requires prior coordination by the COR. Additionally, all Outside Continental United States travel must be approved in advance by the PCO or COR designated by the PCO. Minimal local travel may be required. In no case will the total travel for each task exceed the travel dollars estimated/funded in the individual tasks/subtasks. Travel to other Government facilities or other Contractor facilities may be required. All travel requirements (including plans, agenda, itinerary, dates) shall be pre-approved by the COR or PCO; and is on a strictly cost reimbursable basis. Costs for travel shall be billed IAW the regulatory implementation of Public Law 99-234, Federal Civilian Employee and Contractor Travel Expense Act of 1985 and FAR 31.205-46 Travel Costs and Joint Travel Regulations. The Contractor shall, at no charge to the Government, submit a Notice of Excess Commercial Airline Ticket Cost report when the use of other than least costly air travel is required to complete a Government-directed task (CDRLS: 002, 021).

Travel may be required to support this effort. Frequent locations include but are not limited to AFSPC/USSF, PAFB, Orlando FL, Denver, CO and Cape Canaveral FL.

6.9 DATA ACCESSION LIST

The Contractor shall implement a data management process to identify, maintain, and control all data developed to execute this contract. The Contractor shall prepare and maintain a Data Accession List, to include efforts required to prepare, manage and deliver all information, documentation and data required for delivery by this contract. The Contractor shall ensure that all Data Accession List items required per this PWS be readily and electronically accessible by the Government. (CDRL: 008)

6.10 MANAGEMENT PLANNING

The Contractor shall prepare a TOMP for Government approval that proposes the "best" (optimal) method for completing this effort within the allotted time and budget. The plan must also describe the approach to developing and maintaining assessment processes (i.e., metrics) to quantitatively measure progress and performance, organization, schedule, personnel (including team members, consultants, and subcontractors), and provision of deliverables projected to meet the requirements of this PWS. The Government's desired approach is to have a single task order with several CLINs to correspond with each division's requirements and a finite surge capability. Exceptions to this will be considered on a case-by-case basis. The Contractor shall deliver and brief a draft version of the TOMP to the DTR and COR within thirty calendar days of task order award and, within five working days after receipt of Government comments, update it and return it to the Government for final approval. The Contractor shall maintain and update the plan for the life of the task order to reflect any significant changes in priorities, resource availability, tasking, approach, or execution of the task order. Any revisions to the approved TOMP shall be reflected in the Contractor's Monthly

Status Reports (CDRLS: 001, 002, 005)

6.11 DAY-TO-DAY SUPERVISION

Requirement is addressed within the basic OASIS contract a Section H13.

In order for charges to be invoiced, deliverable services must have been performed in direct support of a requirement. There may be occasions when Contractor personnel are invited to participate in Government morale and recreational activities, such as holiday parties, golf outings, sports days, and other various events. The Government does not have an employer/employee relationship with Contractor employees and therefore is not authorized to grant administrative leave or expend Government resources to compensate Contractor employees for hours expended on activities not within scope of the task order. Under these circumstances, Contractor employees must comply with individual company policy that is IAW that company's compensation system. Submission of a public voucher (invoice) for payment of non-billable charges is not authorized and constitutes a false claim, which may lead to criminal sanctions, fines, suspension, and debarment.

6.12 TECHNICAL INTERCHANGE AND WORKING GROUP MEETINGS

The Contractor shall host and participate in technical interchange meetings and working groups with Government, FFRDC, and contractor organizations as directed by the functional area evaluator or functional commander. The Contractor may also be asked to provide support within ninety minutes notice during normal duty hours for more informal and time sensitive actions.
The Contractor shall prepare briefings and special technical reports or papers as requested and shall provide the Government with copies of all materials presented at technical interchange and working group meetings. (CDRLS: 002, 004, 006)

6.13 NON-DISCLOSURE AGREEMENTS

The Contractor is responsible for obtaining and providing all Non-Disclosure Agreements (NDAs) for personnel supporting ZA under this task order to protect all proprietary, restricted, competition sensitive, or any other restricted (e.g. non-foreign disclosure due to public law) data that will be used or accessed during the execution of this task order. (CDRLS: 001, 002)

6.14 DISCLOSURE OF INFORMATION

There shall be no disclosure or publication of information developed under this task order unless prior written approval has been obtained from the PCO.

In order to comply with DFARS 252.204-7000, Disclosure of Information, the following copies of the information to be released are required at least forty-five days prior to the scheduled release date:

1. Three copies to: Office of Public Affairs, SMC/PA, 3548 Aberdeen Ave, Kirtland AFB, NM 87117-5778
2. One copy to: Contracting Officer, ___, 483 N. Aviation Blvd., El Segundo, CA 90254

6.15 ASSOCIATE CONTRACTOR AGREEMENTS / NDAs

The Contractor shall enter into either Associate Contractor Agreements or NDA for any portion

of the contract requiring joint participation in successfully executing respective Government requirements. The purpose of this requirement is to ensure that proprietary information is exchanged based on mutual agreement of the parties involved in the sharing of the respective information. The following Contractors may be applicable to the joint participation but this list is not an all-encompassing list:

- Lockheed Martin Corporation
- LinQuest
- Astrium Services Government
- Harris
- Space Systems Loral
- Millennium Engineering & Integration Company
- Surrey Satellite Technology
- Orbital
- Boeing
- Exoterra
- Vivisat
- Intelsat
- MEI Tech
- Eutelsat
- SES
- Tecolote
- Sierra Nevada Corporation
- SpaceX
- Delta Research
- AS&D
- Total Administrative Services Corporation (TASC)

7.0 QUALITY ASSURANCE

7.1 QUALITY CONTROL

The Contractor's performance during the life of the task order shall be monitored by the Government in accordance with the task order Quality Assurance Surveillance Plan. The Contractor shall develop, implement, and maintain a comprehensive inspection system that assures compliance with all requirements of this task order. The Contractor shall ensure quality performance of tasks of this PWS. Quality of performance is the accomplishment of all tasks and delivered products within the specified time and minimal rework. (CDRL: 001)

7.1.1 QUALITY CONTROL PLAN

The Contractor shall develop a Quality Control Plan as part of the TOMP that demonstrates how the Contractor shall maintain an inspection system acceptable to the Government covering the services under this task order (CDRL 001). The Quality Control Plan shall demonstrate the Contractor's documented processes and procedures to monitor and control:

- Objectives in the Services Delivery Summary
- Subcontractor Relationships
- Contract and subcontractor invoicing
- Non-Conformances
- Contractor employee qualifications and certifications

7.1.2 GOVERNMENT INSPECTION

Contractor performance is subject to surveillance by the COR and DTR's assigned to ensure compliance with this task order to include performance quality.

7.1.3 NON-CONFORMANCES

The Contractor shall identify and control non-conformances through root cause analysis, corrective actions and preventive actions. The Contractor shall focus proactive identification and transparency of issues, and on eliminating the cause to prevent reoccurrences. The Contractor shall maintain records of non-conformities and actions taken. The Contractor shall correct and provide response to all Government-identified non-conformances IAW timeframes specified by the CO. The task order identifies two types of non-conformances: minor and major and all records of non-conformance and corrective actions will be documented in Performance Assessment Reports and Quarterly Surveillance Reports and, if not corrected in a timely manner, may impact Contract Performance Assessment Ratings (CPAR).

7.1.4 MINOR NON-CONFORMANCE

A minor non-conformance is a non-conformance, which by itself does not adversely impact the overall SMC/ZA mission, safety of personnel and/or equipment, performance (quality), schedule (delivery), or cost. Minor non-conformances are typically low risk, and may be communicated through a Corrective Action Report (CAR) form with the minor box checked or another documented Government communication method.

Minor CARs are normally issued for any identified non-conformances, second notice minor CARs are normally issued for repeat non-conformances or failing to correct issues within a reasonable amount of time or non-conformances that increases risk to one specific technical element or program. Upon receipt of a minor CAR or another documented Government communication method addressing minor non-conformance, the Contractor shall complete applicable sections and return it to the PCO or COR, as specified, within the time specified in the notice. A formal corrective action plan is not required for minor CARs. Minor non- conformances shall be documented in order to be used in support of a Quarterly Surveillance Report, performance assessment or CPAR rating.

7.1.5 MAJOR NON-CONFORMANCE

A major non-conformance is a non-conformance that adversely impacts (or has the potential to impact) mission, safety of personnel and/or equipment, performance (quality), schedule (delivery), or cost. This type of non-conformance increases risk to the Government and therefore has a risk assessment rating of moderate or high. For example, a PCO may find that a situation of increasing risk exists where there are a significant number of recurring minor non- conformances creating an indication of inadequate preventive measures/actions which lowers the Government's confidence that the Contractor can provide quality services on time & within cost.

The PCO may communicate major non-conformances on a CAR form with the major box checked. A suspense date for the Contractor's corrective action plan will be included as well as a summary of the minor CARs and documented customer complaints, if any, that have preceded this issuance. Major Non-conformances shall be documented in order to be used in support of a quarterly surveillance, performance assessment or CPAR rating. The Contractor shall generate a formal corrective action plan for major CARs and other documented Government complaints/concerns that will address at a minimum:

- Action taken to fix the immediate problem
- Root cause analysis of the problem to determine cause
- Corrective action on the cause of the problem
- Actions taken to prevent recurrence

The CO may issue a Cure Notice for a validated unresolved Division level, Directorate level major non-conformance issues. Additionally the CO will determine if a cure notice is appropriate for a validated unresolved major non-conformance issue which negatively impacted a major or high visibility program. Furthermore, any unresolved, validated division or directorate level major non-conformance issues may result in less than satisfactory performance on the Contractor's CPAR and past performance ratings.

7.1.6 PERFORMANCE REQUIREMENTS SERVICES SUMMARY

The Contractor service requirements are summarized into performance objectives that relate directly to mission essential items. The performance threshold briefly describes the minimum acceptable levels of service required for each requirement. These thresholds are critical to mission success. IAW AFI 63-124, the below table summarizes the key services and how they'll be evaluated during contract performance.

7.2 PERFORMANCE REQUIREMENTS SERVICES SUMMARY

As a minimum, CORs will monitor, review, and report on the Contractor's performance and compliance with all service summary items shown below. The service requirements summarized below are performance objectives that relate directly to mission essential items. The performance thresholds referenced in Table 3 below briefly describes the minimum acceptable levels of service required for each service requirement. The performance thresholds established for each of the performance objectives are the number of defects permitted before the COR notifies the CO IAW FAR 52.246-4, Inspection of Services - Fixed Price.

TABLE 3: SERVICES SUMMARY

Objective	Performance Threshold	Method of Surveillance
Quality		
Contractor assures customer satisfaction without any verified formal customer complaints.	No more than 2 verified formal customer complaints / contract discrepancy reports per year. The contractor must resolve customer complaints w/in 10 working days of receipt.	Validated Customer Complaint

Contractor provides engineering and technical recommendations to SMC/ZA program offices in all phases of development.	ContractPerformance or provides input w/in 10 working days or suspense as specified by the program lead with recommended solutions or plan of action.	Random Sampling
Coordinates resolution of contractor assigned program issues and facilitates team communication of assigned systems	Issues are addressed w/in 10 working days or suspense as specified by program lead with recommended solutions or plan of action.	Validated Customer Complaint
Contractor actively participates in program office activities/meetings by providing technical insight and timely response to actions.	Contractor shall provide knowledgeable responses relative to Table 1 disciplines, mission areas, and projects. No more than 10 missed events per year.	Random Sampling

Performance Objective	Performance Threshold	Method of Surveillance
Schedule		
Contract deliverables are completed in an accurate and timely manner.	No more than 1 late document per month. No more than 2 sets of corrections required on any product. All corrections must be submitted within 1 working day of revised suspense.	Periodic Review
Business Relations		
Comply with Contract security requirements.	No more than 1 security violation or Classified Message Incident per year.	Periodic Review
Provide responsive personnel management / direction to provide timely responses to contingencies, modifications, and taskings.	Clear, consistent, and accurately written or verbal responses and/or acknowledgement w/in 1 working day or suspense as specified by the program lead.	Customer Complaint
Deliverable Reports		
Timely delivery of required reports	No more than 1 late document per month. No more than 2 sets of corrections required on any product. All corrections must be	Periodic Review

	submitted within 1 working day of the revised suspense.	
Key Personnel		
Provide qualified personnel in a timely manner.	New or replacement personnel are IDs within 30 days from the time the need for new personnel is identified. New or replacement personnel shall be in place w/in 15 working days of the ID'd vacancy. Temporary replacements w/appropriate clearances and qualifications are in place within 5 working days of vacancy.	100% Inspection
Personnel possess required security clearances	100% of contractor personnel that are required to have TS/SCI possess and maintain an active TS/SCI security clearance (excluding the first 30 days after contract award where 80% of contractor personnel are required). 100% completion of the required annual security training.	100% Inspection

8.0 SECURITY REQUIREMENTS

The security requirements for this task are detailed in the DD Form 254; the approved DD Form 254 for these efforts will be attached to the task order.

8.1 TECHNICAL ASSISTANCE AGREEMENT (TAA)

The Contractor shall comply with the U.S. State Department's International Traffic in Arms Regulations (ITAR) (22 CFR Parts 120-130 and Amendments), the Arms Export Control Act, Defense Trade Security Initiatives, State Department, USAF, and Department of Defense policies relative to the ITAR and exporting and importing data especially for non FMS cases. The Contractor shall obtain a TAA with each of the foreign nations identified by COR at the time of any resulting contract and for the duration of this contract within 90-120 days after notification, with the appropriate agencies, such as the Department of State, to export and receive technical data (direct commercial sales). The Contractor shall maintain the TAA for the duration of the task order. The Contractor personnel shall have no direct contact with foreign nationals until ITAR requirements are met.

8.2 CLEARANCE REQUIREMENTS

At a minimum, all Contractor personnel performing work under this PWS must have a SECRET clearance. Personnel must be able to acquire TS//SCI, Special Access Programs, and/or SI/TK/G/H access as needed. The Government anticipates the Contractor will need to provide an estimated minimum of 38 TS//SCI-cleared personnel to support PWS requirements.

Contractors supporting the security function under management operations are required to be able to access classified national security information up to TS//SCI. The Government will provide the Contractor with system security classification guidance and instructions as required. Work done in support of management operations involving access to or production of classified information will be performed primarily at the SMC facilities at El Segundo, CA. The Contractor shall immediately report any cost savings or cost impacts, per National Industrial Security Program Operating Manual to the CO. All classified material will remain under the control of the AF including disposition of any classified material at the completion of this task order.

8.3 WEAPONS, FIREARMS AND AMMUNITION

Contractors shall not possess weapons, firearms, or ammunition, on themselves or within their Contractor-owned vehicle or privately-owned vehicle while on any installation or any office/working location covered under this task order.

8.4 REPORTING REQUIREMENTS

Report to an appropriate Government authority any information or circumstances which they are aware of that may pose a threat to the security of DoD personnel, Contractor personnel, resources and classified or unclassified defense information.

8.5 CONTROLLED/RESTRICTED AREAS

Implement local base procedures for entry to AF controlled or restricted areas where Contractor personnel shall work. The Government will complete an AF Form 2586, Unescorted Entry

Authorization Certificate, completed and signed by the sponsoring agency's Security Manager, before a Restricted Area Badge will be issued. Contractor employees shall have a favorably completed National Agency Check plus written Inquiries investigation before receiving a Restricted Area Badge. Interim access may be granted IAW AFI 31-501, Personnel Security Program Management. Contractor personnel must have appropriate clearances prior to commencing work on this task order unless otherwise approved in writing by the CO.

8.6 OPERATIONS SECURITY (OPSEC)

The purpose of OPSEC is to reduce the vulnerability of AF missions to adversary collection and exploitation of critical information. Critical Information is defined as information about AF missions or activities the adversary needs to achieve their goals. The Contractor shall ensure compliance with DoDD 5205.02E, DoD Manual 5205.02-M, and/or other applicable Government security regulations including procedures to protect classified and/or controlled classified Government projects and/or programs. The Contractor shall ensure Contractor personnel who perform work on LAAFB, BAFB, and PAFB or another Government facility comply with the OPSEC procedures of the facility. The Contractor shall implement security requirements as listed in the unit's OPSEC Plan, which will be provided as GFI.

8.7 SENSITIVE COMPARTMENTED INFORMATION (SCI) ACCESS

Types of information that will be provided the Contractor includes non-proprietary data about AF Space Systems, including size, weight, power and capabilities. The Contractor leverages information classified up to TS/SCI across all access and dissemination controls. Many TS/SCI level use case scenarios include intelligence data and sources requiring TS and SCI level access to information, networks, and communications systems. TS/SCI access is required to enable the Contractor to develop architectures and concepts as part of the developmental planning process to counter emerging threats to AF space systems with a resilient portfolio of options and capabilities in support of the warfighter. The Contractor may require access to JWICS to efficiently compare/contrast/integrate AF architectural complexities/variables with those of other DoD, MDA and Intel Community team members working to enhance space capabilities and defense current and future systems from emerging threats. The Contractor must be able to communicate and utilize appropriate classified level networks and communications systems to collaborate on and transmit TS/SCI information securely to authorized personnel. Where possible, information will be created and used at the lowest level of classification and uploaded to higher classification systems as required to complete work. If this TS/SCI access is not granted, it will prevent Contractor's ability to execute program requirements.

8.8 SECURITY ACCESS TO CLASSIFIED INFORMATION

The Contractor shall abide by the DD Form 254, Contract Security Classification Specification, associated with this effort and applicable security policies and regulations. The work to be performed under this contract shall be performed at levels up to the TS level with access to SCI processed and transmitted over approved networks (i.e. SIPRNET, JWICS, Contrator Wide Area Network (CWAN), SGN, etc). SCI work at Contractor sites must be performed in either an AF accredited SCIF or an OGA SCIF that has either a Memorandum of Agreement, Memorandum of Understanding, Joint Use Agreement or Co-Use Agreement with the AF for this effort.

9.0 DELIVERABLES

The Contractor shall provide deliverables by due date. Deliverables include but are not limited to: Deliverable requirements, vouchers, research & development, analyses and studies.

The Government expects the contractor to consolidate reporting and deliver one document for the following deliverables: TOMP, Monthly Status Report, Technical Reports, Presentation Material, Meeting/Conference Minutes, Trip Report, Subcontractor Report, IMS, and Facilities Lease Agreement. When consolidating the deliverables, reference the appropriate Deliverable ID # and supported division.

All deliverables should be in format readable by Microsoft (MS) Office Word 2007, MS Office Excel 2007, MS Office Project 2007, MS Office Power Point 2007, or Adobe Acrobat

The format of the Deliverable deliverables should be searchable.

The Contractor shall submit data in accordance with the Contractor-Furnished Deliverable List and subsequent descriptions, which includes the following:

ID #	CONTRACT DATA REQUIREMENTS LIST
001	Task Order Management Plan (TOMP)
002	Monthly Status Report
003	Training Materials
004	Technical Report-Study/Services
005	Presentation Material
006	Meeting/Conference Minutes
007	Trip Report (Meeting Content)
008	Data Accession List
009	Subcontractor Report
010	Software Products
011	Software Testing
012	MS&A Training and Materials
013	SEAS Source Code and Master Change List Delivery
014	MS&A Verification and Validation Procedures
015	SEAS Website
016	SEAS Warfile Repository
017	Technology Development Strategy
018	Developmental Plans & Concept Characterization & Technical Description (CCTDs)
019	Integrated Master Schedule
020	Analysis & supporting documentation

021	Trip Report (ODC Data)
022	Facilities Lease Agreement
023	Raw Model Data/Product
024	SMC/ZA MS&A Charter
025	Configuration Control and CCB Management Plan
026	SMC/ZA Modeling, Simulation Support Plan

Note: Reports are due fifteen calendar days after close of previous Calendar month. Days After Task Order Award (DATO); H: CD/ROM; E: Electronic Copy; Day: Calendar Day

Mailing address for Distribution: SMC/ZA, 483 N Aviation Blvd. El Segundo, CA 90245. Email addresses for electronic distribution will be provided and updated by SMC/DCK.

9.1 CONTRACTOR FURNISHED DELIVERABLE DESCRIPTIONS

Unless otherwise specified within an individual CDRL description, use the following instructions:

Contract Reference: TBD
Requiring Office: SMC/ZA

Delivery Instructions
DD250 Req: LT
APP Code: blank
Dist Statement Required: D - Distribution authorized to Department of Defense and U.S. DoD contractors only; Administrative or Operational Use; dd mmm yy. Other requests for this document shall be referred to SMC/ZA, 483 N Aviation Blvd. El Segundo, CA 90245.
Frequency: ASREQ
As of Date: 0 (End of Month)
Date of First Submission: 30 Contract Execution Date (CED)
Date of Subsequent Submission: 15 calendar days after close of previous Calendar month
Distribution: Hardcopy on CD/ROM to PCO. Mailing address for Distribution: SMC/ZA, 483 N Aviation Blvd. El Segundo, CA 90245. Electronic copies to COR, ZA. Email addresses for electronic distribution will be provided and updated by GSA. The format of the Deliverable deliverables should be searchable. All deliverables should be in format readable by Microsoft (MS) Office Word 2007, MS Office Excel 2007, MS Office Project 2007, MS Office Power Point 2007, or Adobe Acrobat

9.1.1 001: TASK ORDER MANAGEMENT PLAN (TOMP)

This following provides a detailed description for deliverables provided under PWS Sections 3.4, 4.2.7, 5.1, 5.1.2, 5.1.3, 5.1.5, 5.1.8, 6.10, 6.13, and 7.1

Authority - The Authority for this deliverable is derived from the DI-MGMT-81797/T Data Identification Document (DID) and shall be modified as follows:

- Line 2: Add "The Plan's pages shall be sequentially number and securely bound together. As necessary, graphic material may be one-way foldouts. All attachments shall be identified and referenced in the text. Each section and paragraph shall be numbered."

- Line 3: Add “Item H. Identification: The plan shall identify the Contractor’s name, contract number, title and number of the task order, security classification of the plan, name of contract monitor, and the government office issuing the tasking.”
- Line 3: Add “Item I. Descriptive Material: The plan shall include descriptive material, sketches, photographs, tables, forms, graphs, worksheets, charts, etc., as required.”
- Line 3: Add “Item J. Table of Contents and Index: Plans of more than 30 pages in length will contain a table of contents.”
- Line 3, para g: Add “(3): The plan shall include a description of the Contractor’s organizational structure and assignment of functions, duties and responsibilities which will be assigned in support of the tasking. Additionally, the plan shall identify the Contractor’s procedure, policies, and reporting requirements established to initiate, monitor, control, complete and report on activities required by the task order.
- Line 3: Add “Item K. Methodology. The plan shall include a narrative description clearly defining the technical approach (or method) for each subtask to be used by the Contractor to accomplish the task order. All documentation, activity, or decisions required from the Government or other Government contractors shall be identified.”
- Line 3: Add “para g(4):Personnel. The plan shall identify the names and types of personnel assigned to accomplish the task order. The plan shall show how the combination of people assigned to each task provides a sufficient knowledge/experience base for that task. This includes identifying and special education, training, experience, or skills of these individuals. Also, any special administrative support requirements shall be identified.”
- Line 3: Add “para L: Resources Chart. The plan shall include a resources chart that graphically and numerically identifies the Contractor’s total planned man-hour level of effort (LOE) and LOE by month for each subtask identified in the task order. Proposed monthly subtask man-hours shall be broken out for each person assigned in support of subject task order.”
- Line 3: Add “para M: Contractor Request Data. The plan shall include the Contractor’s best assessment of any additional data required by the Contractor. This list shall be as detailed as possible and shall include document titles, responsible Government organizations, and responsible Government Contractors. The criticality of each data request shall be identified.”
- Line 3: Add “para N: Quality Control Plan. The plan shall include a quality control plan (QCP) that demonstrates how the Contractor shall maintain an inspection system acceptable to the Government covering the services under this task order.”
- Line 3: Add “para O: Transition In Plan. The plan shall include the contractor's timeline to transition all incumbent tasks to the incoming contract personnel in order to meet or exceed the stated qualification requirements in the PWS. The transition period is from the contract award date to the start date of performance and shall not exceed 15 days.
- Line 3: Add “para P: Transition Out Plan. The plan shall include the contractor’s timeline to transition all ongoing tasks to incoming personnel in order to meet or exceed future stated qualification requirements in follow on contracts. The transition period starts 30 days prior to the end of the contract.

- Remove: Line 3, para D; Line 3, para E; Line 3, para F

Delivery Instructions - The frequency of this deliverable will be as required by the Government and will be considered acceptable once Government representatives have reviewed it and the PCO signals its sufficiency. The date of first submission will be 30 calendar days after the Contract Execution Date (CED) and follow-on submissions will be per the PCO's direction (as required). The minimum required format for the deliverable will be one CD/ROM copy to DCK (PCO), the Contracting Officer's Representative (COR) and one electronic copy to the Division Technical Representative in the associated PWS sections. Distribution authorized to DoD and US DoD contractors.

9.1.2 002: MONTHLY STATUS REPORT

This following provides a detailed description for deliverables provided under PWS Sections 4.0, 4.1, 4.1.1, 4.1.2, 4.1.3, 4.1.4, 4.1.4.1, 4.1.4.2, 4.1.4.3, 4.1.5, 4.2.7, 4.4, 4.4.1, 4.4.2, 4.4.3, 4.5.1, 4.5.2, 4.5.3, 4.5.4, 4.5.5, 4.5.6, 4.5.7, 4.5.8, 4.6.1, 4.6.2, 4.7.1, 5.1.8, 5.1.10, 6.2, 6.3, 6.6, 6.7, 6.8, 6.10, 6.13, and 7.1

Authority - The Authority for this deliverable is derived from the DI-MGMT-80368A/T Data Identification Document (DID) and shall be modified as follows:

- The Monthly Status Report shall be unclassified.
- Add para 2.3: "Descriptive Material. The reports shall include descriptive material, sketches, photographs, tables, forms, graphs, worksheets, charts, etc., as required."

Delivery Instructions - The frequency of this deliverable will be monthly and will be submitted to the Government representatives as information only. The date of first submission will be no later than 45 calendar days after the Contract Execution Date (CED) and follow-on submissions will be delivered no later than 15th calendar day after close of previous Calendar month. The minimum required format for the deliverables is one electronic copy to the Contracting Officer's Representative (COR) and each Division Technical Representative in the associated PWS sections. Distribution is limited to US Government agencies.

9.1.3 003: TRAINING MANUALS & RELATED MATERIALS

This following provides a detailed description for deliverables provided under PWS Sections 4.1.4.3, 4.2.6.6, 5.1.5, and 6.7

Authority - The Authority for this deliverable is derived from the DI-ILSSS-80872/T Data Identification Document (DID) and shall be modified as follows:

- Modify 10.1 to read: "The training materials shall be suitable for providing the training support specified in the Performance Work Statement."
- Modify 10.2 to read: "The training material shall have content and scope sufficient to support the training specified in the Performance Work Statement."
- Delete 10.2.1, 10.2.1.1, 10.2.1.2, 10.2.1.3, 10.2.1.4, 10.2.1.5, 10.2.1.6, 10.2.1.7, and 10.2.2.

Delivery Instructions - The frequency of this deliverable will be as required by the Government and will be submitted to the Government representatives for review 7 days before the beginning of the associated training session. All submissions will be as required by the Government and will consist of final written and/or computer based training materials. The minimum required format for the deliverables is one electronic copy to the PCO and each Division Technical Representative (PM) in the associated PWS sections. Deliverable data shall be submitted as digital files in a format that is directly usable by one or more applications in Microsoft Office.

These applications are: Word, Excel, PowerPoint, and Outlook. Distribution authorized to U.S. Government Agencies and their contractors.

9.1.4 004: TECHNICAL REPORTS – STUDY/SERVICES

This following provides a detailed description for deliverables provided under PWS Sections 4.0, 4.1, 4.1.1, 4.1.2, 4.1.3, 4.1.4, 4.1.4.1, 4.1.4.2, 4.1.4.3, 4.1.5, 4.1.8, 4.2.6.8, 4.3.1, 4.4, 4.4.1, 4.4.3, 4.6.1, 4.6.2, 4.7.1, 4.8, 4.8.2, 4.8.3, 4.8.5, 4.8.6, 4.8.6.1, 4.8.7, 4.9.1, 4.9.4.2, 4.9.4.4, and 6.12

Authority - The Authority for this deliverable is derived from the DI-MISC-80508B/T Data Identification Document (DID) and shall be modified as follows:

- Contractor format acceptable.

Delivery Instructions - The frequency of this deliverable will be as required by the Government and will and will be considered acceptable once Government representatives have reviewed it and the PCO signals its sufficiency. Initial and follow-on submissions will be as required by the Government and will consist of digital files in a format that is directly usable by one or more applications in Microsoft Office. These applications are: Word, Excel, PowerPoint, and Outlook. The minimum required format for the deliverables is one electronic copy to the PCO, the Contracting Officer's Representative (COR) and each Divisional Technical Representative in the associated PWS sections. Distribution authorized to U.S. Government Agencies and their contractors.

9.1.5 005: PRESENTATION MATERIAL

This following provides a detailed description for deliverables provided under PWS Sections 4.1, 4.1.1, 4.1.2, 4.1.3, 4.1.4, 4.1.4.1, 4.1.4.2, 4.1.4.3, 4.1.5, 4.1.8, 4.2.4, 4.2.5, 4.4, 4.4.1, 4.4.2, 4.4.3, 4.8.1, 4.8.3, 4.8.5, 4.8.6, 4.8.6.1, 4.8.7, 4.9.1, 4.9.4.2, 4.9.4.4, 6.2, and 6.10

Authority - The Authority for this deliverable is derived from the DI-ADMN-81373A Data Identification Document (DID) and shall not be modified.

Delivery Instructions - The frequency of this deliverable will be as required by the Government and will be for information only. Initial and follow-on submissions will be as required by the Government and will consist of digital files in a format that is directly usable by one or more applications in Microsoft Office. These applications are: Word, Excel, PowerPoint, and Outlook. The minimum required format for the deliverables is one electronic copy to the PCO, and the Division Technical Representatives (PM) in the associated PWS sections. Distribution authorized to U.S. Government Agencies.

9.1.6 006: CONFERENCE MINUTES REPORT, RECORD OF MEETING/MINUTES

This following provides a detailed description for deliverables provided under PWS paragraphs 4.1, 4.1.1, 4.1.2, 4.1.3, 4.1.4, 4.1.4.1, 4.1.4.2, 4.1.4.3, 4.1.5, 4.1.8, 4.4, 4.4.2, 4.4.3, 4.8.6, 4.8.6.1, 4.9.1, 4.9.4.2, 4.9.4.4, 5.1.8, 6.2, and 6.12

Authority - The Authority for this deliverable is derived from DI-ADMN-81505A/T Data Identification Document (DID) and shall not be modified.

Delivery Instructions - The frequency of this deliverable will be as required by the Government and will be for information only. Minutes shall be due within seven calendar days after each meeting agreed to by the contractor and Government and directed by either the PCO or COR unless Government requirements dictate otherwise. The minimum required format for the deliverable will be one electronic copy to DCK (PCO) only and one electronic copy to the Division Technical Representative (PM) in the associated PWS sections. Distribution is limited to US Government agencies.

9.1.7 007: TRIP REPORT

This following provides a detailed description for deliverables provided under PWS Sections 4.1.4.3, 4.1.5, and 6.6

Authority - The Authority for this deliverable is derived from DI-MISC-80508B/T Data Identification Document (DID) and shall be modified as follows:

Add the following sections:

3. (c)(2) a. Place of travel

b. Reason for travel

c. Personnel in attendance

d. Topics and/or notes of travel

e. Action Items

f. Any other necessary information

Delivery Instructions – Delivery is completed when Trip Report is furnished as specified below. This deliverable shall not require a transmittal letter per Trip Report. The Trip Report shall be included as a DAL artifact under PWS Section 7.1.8. The Contractor shall deliver a compiled Trip Summary Report in accordance with PWS Section 7.1.21. The frequency of this deliverable will be as required by the Government and will be for information only. Submit final version at completion of travel for government in Microsoft or Adobe PDF format. The minimum required format for the deliverable will be one electronic copy to the Division Technical Representative (PM) in the associated PWS sections. Distribution is limited to US Government agencies.

9.1.8 008: DATA ACCESSION LIST (DAL)

This following provides a detailed description for deliverables provided under PWS Section 6.9.

Authority - The Authority for this deliverable is derived from DI-MISC-80508B Data Identification Document (DID) and shall be modified as follows:

1) Requirements, section 3, add the following:
   a) 3.3. The DAL shall include a listing of trade studies, memos, reports, test reports, flow diagrams, computer support software, plans/procedures, and all other documents generated to support the program.
   b) 3.4. Contractor format shall be in a format that can be read, searched and stored electronically by the government.
   c) 3.5. Each quarterly report shall reflect the documents generated by the contractor to support the STS-2 program.
2) Delete section 3.2.

Delivery Instructions - The frequency of this deliverable will be required quarterly by the Government and will be considered acceptable once Government representatives have reviewed it and signal its sufficiency. The date of first submission will be 30 calendar days after the Contract Execution Date (CED) plus 90 calendar days (CD). Subsequent submittals shall be submitted 15 calendar days after end of each quarter. The minimum required format for the deliverable will be one electronic copy to DCK (PCO) only and one electronic copy to the Division Technical Representative (PM) in the associated PWS sections. Distribution is limited to US Government agencies.

9.1.9 009: SUBCONTRACTOR REPORT

This following provides a detailed description for deliverables provided under PWS Sections 6.4 and 6.5

Authority - The Authority for this deliverable is derived from DI-ADMN-80426 Data Identification Document (DID) and shall not be modified.

Delivery Instructions - The frequency of this deliverable will be required annually by the Government and will be for information only. The date of first submission will be 30 calendar days after the Contract Execution Date (CED) plus 90 calendar days (CD). Subsequent submittals shall be submitted 15 calendar days after end of each year. The minimum required format for the deliverable will be one electronic copy in a format that is directly usable by one or more applications in Microsoft Office to DCK (PCO) only, one electronic copy to GSA (COR), and one electronic copy to the divisional technical representative in the associated PWS sections. Distribution is limited to US Government agencies.

9.1.10 010: SOFTWARE PRODUCTS

This following provides a detailed description for deliverables provided under PWS Sections 4.2.1.1, 4.2.5, 4.2.6.4, 4.2.6.8, 4.2.6.10, and 4.2.6.11

Authority - The Authority for this deliverable is derived from DI-IPSC-81442A Data Identification Document (DID) and shall not be modified.

Delivery Instructions - The frequency of this deliverable will be as required by the Government and will be considered acceptable once Government representatives have reviewed it and signals its

sufficiency. All equipment/software/data shall be delivered to the Government. The formats and quantities of the deliverables will be specified by the Government. This includes both SEAS and non-SEAS related software products. Average frequency is 6 to 12 times per year. The minimum required format for the deliverable will be one electronic copy to GSA (PCO) the Contracting Officer's Representative (COR) and one electronic copy to the Division Technical Representative (PM) in the associated PWS sections. Distribution is limited to US Government agencies.

9.1.11 011: SOFTWARE TESTING

This following provides a detailed description for deliverables provided under PWS Sections 4.1.2, 4.2.3, 4.2.6.4, 4.2.6.7, 4.4.1, 4.4.3, and 4.6.1

Authority - The Authority for this deliverable is derived from DI-IPSC-81440A Data Identification Document (DID) and shall not be modified.

Delivery Instructions - The frequency of this deliverable will be as required by the Government and will be for information only. Expected delivery frequency will be 3 to 4 times per year.

The average SEAS delivery frequency is up to 1 per year for major release, up to 2 per year for minor release, and up to 5 per year for beta release. The minimum required format for the deliverable will be one electronic copy to GSA (PCO) only and one electronic copy to the divisional technical representative in the associated PWS sections. Distribution is limited to US Government agencies.

9.1.12 012: MS&A TRAINING AND MATERIALS

This following provides a detailed description for deliverables provided under PWS Section 4.2.6.6

Authority - The Authority for this deliverable is derived from DI-ILSS-80872/T Data Identification Document (DID) and shall modify as follows:

- Delete 10.2.1, 10.2.1.1, 10.2.1.2, 10.2.1.3, 10.2.1.4, 10.2.1.5, 10.2.1.6, 10.2.1.7, and 10.2.2, subsections (2) and (3), keep 10.2.1 subsection (1).

Delivery Instructions -The frequency of this deliverable will be as required by the Government and will be considered acceptable once Government representatives have reviewed it and signals its sufficiency. SEAS Training Frequency will be 2 to 5 times per year, 1 week long per occurrence, released to Government for review at least 7 days prior. Other training frequency will be 2 to 10 times per year, 1 day long per occurrence. The Contractor shall deliver all necessary training materials no later than 24 hours prior to class start date. The minimum required format for the deliverable will be one electronic copy to GSA (PCO) only and one electronic copy to the divisional technical representative in the associated PWS sections.
Distribution is limited to US Government agencies.

9.1.13 013: SEAS SOURCE CODE AND MASTER CHANGE LIST DELIVERY

This following provides a detailed description for deliverables provided under PWS Sections 4.2.2, 4.2.6, 4.2.6.2, 4.2.6.3, 4.2.6.4, and 4.2.6.11

Authority - The Authority for this deliverable is derived from DI-IPSC-81488 Data Identification Document (DID) and shall not be modified.

Delivery Instructions - The frequency of this deliverable will be as required by the Government and will be considered acceptable once Government representatives have reviewed it and signals its sufficiency. The SEAS source code including all pertinent documentation (comments in source code, source code dependencies, training documentation, etc.) shall be delivered to the Government at the completion of each major build or at the request of the Government. The Master Change List (MCL) shall document proposed, approved, in-progress, and completed changes to the SEAS source code and delivered at the request of the Government. The average frequency will be 1 to 2 times per year. The minimum required format for the deliverable will be one electronic copy to GSA (PCO) only and one electronic copy to the divisional technical representative in the associated PWS sections. Distribution is limited to US Government agencies.

9.1.14 014: MS&A VERIFICATION AND VALIDATION PROCEDURES

This following provides a detailed description for deliverables provided under PWS Section 4.2.6.7

Authority - The Authority for this deliverable is derived from the DI-MSSM-81751 Data Identification Document (DID) and shall be modified as follows:

Additional Requirements:

- Tools generated for internal use will be Verified and Validated at the direction of the Government.
- If a formal Verification & Validation (V&V) is requested, the format and content of the V&V Plan shall be in accordance with MIL-STD-3022, Appendix B.
- SEAS will be V&V'd according to PWS 4.2.6.8 and developed to maintain AF Standard Analysis Toolkit standards.
- Informal V&V has BLK 8 as BLANK, where formal is ZA. Whether formal or informal V&V is stipulated will be explicit in the direction from the Government.

Delivery Instructions - The frequency of this deliverable will be as required by the Government and will be considered acceptable once Government representatives have reviewed it and signals its sufficiency. The average frequency will be 1 time per 2 year period. The minimum required format for the deliverable will be one CD/ROM copy to GSA (PCO) and one electronic copy to the Division Technical Representative (PM) in the associated PWS sections. Distribution is limited to US Government agencies.

9.1.15 015: SEAS WEBSITE

This following provides a detailed description for deliverables provided under PWS Section 4.2.6.9

Authority – The Authority for this deliverable is derived from the DI-MGMT-81946 Data Identification Document (DID) and shall not be modified.

Delivery Instructions - The frequency of this deliverable will be as required by the Government and is provided to Government and will be for information only. The website is developed and maintained per model manager request. Functionality is added per model manager request per PWS 4.2.6.11. The average frequency will be a weekly maintenance. The minimum required format for the deliverable will be one electronic copy in the form of active website link to GSA (PCO) and one electronic copy to the Division Technical Representative (PM) in the associated PWS sections. Distribution is limited to US Government agencies.

9.1.16 016: SEAS WARFILE REPOSITORY

This following provides a detailed description for deliverables provided under PWS Sections 4.2.6 and 4.2.6.10

Authority - The Authority for this deliverable is derived from the DI-MCCR-80700 and shall be modified as follows:

- Change “Distribution Statement A” to “Distribution Statement D”.

Delivery Instructions - The frequency of this deliverable will be as required by the Government and will be considered acceptable once Government representatives have reviewed it and signals its sufficiency. The average frequency will be 3-10 per year study. Studies Average 3-4 per year. Warfile will be delivered at request of the Government and stored on local IS. Exact format of the Warfile is specified in PWS 4.2.6.12. The minimum required format for the deliverable will be one electronic copy to GSA (PCO) and one electronic copy to the Division Technical Representative (PM) in the associated PWS sections. Distribution is limited to US Government agencies.

9.1.17 017: TECHNOLOGY DEVELOPMENT STRATEGY (TDS)

The following provides a detailed description for deliverables provided under PWS Section 4.1.7

Authority - The Technology Development Strategy (TDS) shall describe the acquisition approach that will be undertaken to mature key technologies and maturation efforts for technology development for Pre-Milestone B phases of the technology life cycle. The TDS describes business strategies, developmental strategies, support strategies and Critical Program Information to manage program risks and meet program objectives while balancing cost, schedule and performance.

- TDSs shall be delivered on an as required basis and shall belong to the one of the below levels/categories based on the level of fidelity. Each TDS fidelity level shall be defined by the Technology Readiness Level (TRL). The TRL shall be defined by the DoD DESKBOOK 5000.2-R, APPENDIX 6, TECHNOLOGY READINESS LEVELS AND THEIR DEFINITIONS. In addition, a stage gating process shall be enacted prior to assigning the entrance/exit TRL. The stage gating process shall be defined by Technology Development and Transition Strategy Guidebook, Version 2, 2010, and shall be applied pre-TRL 4 through TRL 6. Low Fidelity: This document shall be developed for TRL 4 technologies and include the following chapters: Executive Summary, Capability Need, Acquisition Approach, Tailoring Approaches, Program Schedule, Risk & Risk Management, Business Strategy, Cost & Funding, Resource Management, System Engineering and Test Approach, Industrial Capability and

Manufacturing Readiness, and Life Cycle Signature Support.

- Medium Fidelity: This document shall be developed for TRL 5 technologies and include the following chapters: Executive Summary, Capability Need, Acquisition Approach, Tailoring Approaches, Program Schedule, Risk & Risk Management, Business Strategy, Cost & Funding, Resource Management, System Engineering and Test Approach, Industrial Capability and Manufacturing Readiness, and Life Cycle Signature Support.
- High Fidelity: This document shall be developed for TRL 6 technologies and include the following chapters: Executive Summary, Capability Need, Acquisition Approach, Tailoring Approaches, Program Schedule, Risk & Risk Management, Business Strategy, Cost & Funding, Resource Management, System Engineering and Test Approach, Industrial Capability and Manufacturing Readiness, and Life Cycle Signature Support.
- Reference Document: Space and Missile System Center Satellite Acquisition Processes Version 5.4.14, 25 July 2012.

Delivery Instructions - The frequency of this deliverable will be as required by the Government and will be considered acceptable once Government representatives have reviewed it and signals its sufficiency. Deliverable data shall be submitted as digital files in a format that is directly usable by one or more applications in Microsoft Office. These applications are: Word, Excel, PowerPoint, and Outlook. The minimum required format for the deliverable will be one electronic copy to GSA (PCO) and one electronic copy to the Division Technical Representative (PM) in the associated PWS sections. Distribution is limited to US Government agencies.

9.1.18 018: DEVELOPMENT PLANS AND CONCEPT CHARACTERIZATION AND TECHNICAL DESCRIPTIONS (CCTDS)

This following provides a detailed description for deliverables provided under PWS Sections 4.1.5 and 4.4

Authority - The Authority for this deliverable is derived from the DI-MISC-80711A/T Data Identification Document (DID) and shall be modified as follows:

- Para 10.2: Delete. Contractor format is acceptable.
- Para 10.3: Delete second sentence. Clarification on content: In documenting the assigned task(s), this document shall follow the guidance of the SAF/AQ Concept Characterization and Technical Description (CCTD) Guide dated 27 Oct 2010. Unless directed otherwise by the PCO or COR, it shall contain inputs to the following sections:

  1. Mission / Capability Need Statement / CONOPS

  2. Concept Overview (OV-1)

  3. Trade Space Characterization

  4. Evaluation (Studies, Analysis, Experiments)

  5. Concept characterization / Design

  6. Program Characterization / Implementation Analysis

  7. Risk Assessment and Decision-Certain-Consequences

8. DOT_LPF Implications and other interdependencies
9. Conclusions

Delivery Instructions - The frequency of this deliverable will be as required by the Government for review and will provide feedback. Anticipate no more than 3-4 CCTDs per year. The date of first submission will be as agreed to by the contractor and Government and directed by either the PCO or COR. Revisions may be necessary due to HQ AFSPC/USSF clarification/questions. The minimum required format for the deliverable will be one electronic copy to GSA (PCO), the Contracting Officer's Representative (COR) and one electronic copy to the Divisional Technical Representative (PM) in the associated PWS sections. Deliverable data shall be submitted as digital files in a format that is directly usable by one or more applications in Microsoft Office.
These applications are: Word, Excel, PowerPoint, and Outlook.

9.1.19 019: INTEGRATED MASTER SCHEDULE (IMS)

This following provides a detailed description for deliverables provided under PWS Section 4.4

Authority - The Authority for this deliverable is derived from the DI-MGMT-81861/T Data Identification Document (DID) and shall be modified as follows:

- Delete paragraphs/subparagraphs 1.0 to 3.6.11.4. Under Requirements
- 3.7 Format. Add the following: "The IMS shall be created using Microsoft Project scheduling software. Deliveries shall be in electronically in Microsoft Project and as a hard copy." In addition the contractor may provide "snap shots" of mission schedules in charts as either Microsoft PowerPoint or Adobe pdf format.
- Content. Add: "The schedule shall contain key mission/program milestones, accomplishments, and discrete tasks/activities (including planning packages where applicable) from mission start to completion including spacecraft development/ deliveries/ ground system development and readiness as required to complete a multi-payload mission. The schedule shall be an integrated, logical network-based schedule inputs provided from prime development contractors' inputs that tie all aspects of the given mission/program together in a logical manner. It shall contain key mission/program milestones and descriptions and display summary, intermediate, and detailed schedules, and periodic analysis of progress to date. It shall include fields and data that enable the user to access the information by product, process, or organizational lines.
- Delete subparagraphs 3.7.1.3.4.1
- Delete paragraphs/subparagraphs 3.8 and Formats 1, 2, 3, and 4.

Delivery Instructions - The frequency of this deliverable will be as required by the Government and will be for information only. Deliverable data shall be submitted as digital files in a format that is directly usable by one or more applications in Microsoft Office. These applications are: Word, Excel, PowerPoint, and Outlook. Minimum required: One (1) CD/ROM copy and one (1) electronic copy to GSA (PCO), the Contracting Officer's Representative (COR) and the Division Technical Representative (PM) as it pertains to the deliverable.

9.1.20 020: DESIGN DATA, ANALYSIS & SUPPORTING DOCUMENTATION

This following provides a detailed description for deliverables provided under PWS Sections 4.1, 4.1.1, 4.1.2, 4.1.4, 4.1.4.1, 4.1.4.2, 4.1.4.3, 4.1.5, 4.1.8, 4.2.1, 4.2.1.1, 4.2.4, 4.2.6.1, 4.2.6.5, 4.2.6.8, 4.3.1, 4.4.2, 4.4.3, 4.7.1, 4.9.1, 4.9.4.2, and 4.9.4.4

Authority - The Authority for this deliverable is derived from the DI-GDRQ-80650/T Data Identification Document (DID) and shall be modified as follows:

- Remove sentence 3.2 & 7.2 in DID.
- Replace "Distribution Statement A" with "Distribution Statement D" in Section 11. Contractor format is acceptable.

Delivery Instructions - The frequency of this deliverable will be as required by the Government and will be considered acceptable once Government representatives have reviewed it and signals its sufficiency. Anticipate average Frequency: 6-12 times per year. Minimum required one electronic copy in the form of a CD/ROM to PCO, the Contracting Officer's Representative (COR) and the respective Divisional Technical Representative (PM). Deliverable data shall be submitted as digital files in a format that is directly usable by one or more applications in Microsoft Office. These applications are: Word, Excel, PowerPoint, and Outlook

9.1.21 021: TRIP REPORT - OTHER DIRECT COSTS (ODC)

This following provides a detailed description for deliverables provided under PWS Sections 4.2.3, 6.7, and 6.8

Authority - The Authority for this deliverable is derived from the following:

Utilize format provided in the specified attachment to this deliverable. Ensure the following information is included in the summary of travel/supplies costs:

a) Place of travel

b) Reason for travel (Division/program/project supported)

c) Personnel in attendance

d) Estimated Travel Costs (Airfare, rental vehicle, lodging, per diem, etc.)

e) Actual Travel Costs (post-travel submission)

f) Any costs for stationary/misc supplies in support of approved trip

Delivery Instructions – The Contractor shall deliver a compiled Trip Summary Report. The frequency of this deliverable will monthly fifteen calendar days after close of previous Calendar month, and will be for information only. Deliverables shall be sent to the PCO, the Contracting Officer's Representative (COR) and the respective Divisional Technical Representative (PM). Deliverable data shall be submitted as an electronic copy in Microsoft Office format or an Adobe PDF format. Distribution authorized to U.S. Government Agencies and their contractors.

9.1.22 022: FACILITIES LEASE AGREEMENT

This following provides a detailed description for deliverables provided under PWS Section 3.9.1

Authority - The Authority for this deliverable is derived from the following:

Provide the signed Aerospace Lease Agreement that will be established by the contractor for on- site workspace in the LAAFB area.

Delivery Instructions - The frequency of this deliverable will be annually or as required by the Government and will be for information only. Initial submission should occur within 30 calendar days after Task Order award. Follow-on submissions shall be accomplished within 30 calendar days of being signed. Deliverables shall be sent to the PCO and the Contracting Officer's Representative (COR). Deliverable data shall be submitted as an electronic copy in Microsoft Office format or an Adobe PDF format. Distribution authorized to U.S. Government Agencies and their contractors.

9.1.23 023: RAW MODEL DATA PRODUCT

This following provides a detailed description for deliverables provided under PWS Section 4.1.4.3

Authority - The Authority for this deliverable is derived from the following: DI-MCCR-80700 and shall be modified as follows:

- 10.2 Media: – Electronic delivery into Livelink
- 10.3 Format: HTML and XML files

Delivery Instructions - All software/data shall be delivered to the Government via SMC livelink. Major model updates will be delivered 4 times per year and will be considered acceptable once Government representatives have reviewed it and signals its sufficiency. Maintenance changes will be delivered monthly.

9.1.24 024: SMC/ZA MS&A CHARTER

This following provides a detailed description for deliverables provided under PWS Sections 4.2.1, 4.2.6.3

Description of the Document: The Document provides a detailed description of the goals of the functions executed under Modeling, Simulation and Analysis in all Branches of the organization serviced under this Task order Contract. The Organizational matrix is described graphically and in text formats. The interfaces organizationally and in functions are described. The Tasks executed are described at an abstract level for executive review. The maintenance of the software, the website maintenance processes and distribution system for the SEAS software are described. The Change Control Board (CCB) processes and the Configuration management and the detailed CCB execution processes including interfaces with the Major Users of the SEAS software are described. Software reissue and upgrades and V&V processes are described. Processes for Integration with AFSIM or any other Tools are also covered in this document. The contents stipulated here are not limiting for the Contractor and Contractor shall propose per templates for similar documents submitted by the contractor before after making an assessment of the PWS MSA scope.

Authority - The Authority for this deliverable is derived from the DI-MISC-80711A/T Data Identification Document (DID) and shall be modified as follows:

- Para 10.2: Delete. Contractor format is acceptable.
- A table of contents shall be included if the Page limits exceed 10 pages

Delivery Instructions - The initial MS&A Charter shall be drafted and submitted to the Government NLT 21 days from the ATP. The frequency of revisions of this deliverable will be as required by the Government. Revisions may be necessary due to HQ USSF clarification/questions. The minimum required format for the deliverable will be one electronic copy to GSA (PCO), the Contracting Officer's Representative (COR) and one electronic copy to the Divisional Technical Representative (PM) in the associated PWS sections. Deliverable data shall be submitted as digital files in a format that is directly usable by one or more applications in Microsoft Office.
These applications are: Word, Excel, PowerPoint, and Outlook.

9.1.25 025: CONFIGURATION CONTROL AND CCB MANAGEMENT PLAN

This following provides a detailed description for deliverables provided under PWS Sections 4.2.1, 4.2.2, 4.2.3, 4.2.6.2, and 4.2.6.3

Description of the document: The document describes the change processes and how they are administered, conducted and how their proceedings are documented. The organizational matrix and the interfaces with the user organizations and interrelationships are described. The Change Control Board (CCB) organizational structures and its processes are part of the scope of this document

Authority: The Authority for this deliverable will be derived from MIL-HANDBOOK-61A, DoD Configuration Management and EIA-649-1, Configuration Requirements for Defense Contracts. The format and content and other requirements will be referenced from these documents. Contractor best practices will be used as informed by the recommended requirements in above documents. The Configuration Control and CCB Management Plan (CC&CMP) shall describe the configuration management program and the methods, procedures, and controls used for effective configuration identification, change control, status accounting, and audits of the total configuration, including software and firmware. The principal use is to provide SMC/ZA a basis for review, evaluation and monitoring of the CM program and its proposed components for the SEAS software used for Modeling and Simulation along with other Tools in ZA if necessary. The format, content and preparation instructions will satisfy the requirements of the work tasks specified in the solicitation under the above referenced paras from the PWS, namely 4.2.1 to 4.2.6.3. The documents shall be used per the following tailoring:

1, All paras: The above reference documents will be tailored per Contractor's best practices.

2. A Table of content shall be furnished if contents exceed 10 pages

Delivery Instructions - The initial Configuration Control and CCB Management Plan shall be drafted and submitted to the Government NLT 30 days from the ATP. The frequency of revisions of this deliverable will be as required by the Government. Revisions may be necessary due to HQ USSF clarification/questions. The minimum required format for the deliverable will be one electronic copy to GSA (PCO), the Contracting Officer's Representative (COR) and one electronic copy to the

Divisional Technical Representative (PM) in the associated PWS sections. Deliverable data shall be submitted as digital files in a format that is directly usable by one or more applications in Microsoft Office.
These applications are: Word, Excel, PowerPoint, and Outlook.

9.1.26 026: SMC/ZA MODELING, SIMULATION SUPPORT PLAN

This following provides a detailed description for deliverables provided under PWS Sections 4.2.1, 4.2.3, 4.2.4, 4.2.6, and 4.2.6.3

Authority - The Authority for this deliverable is derived from the DI-MGMT-81797/T Data Identification Document (DID) and shall be modified and tailored as follows:

Description of Documents: The SMC/ZA Modeling and Simulation Support Plan is the execution plan for all of the MS&A Tasks the Contractor shall execute during the term of the Contract such as the Analysis Tasks, maintenance of the SEAS software, maintenance and upgrades of the SEAS website, SEAS software, software new releases and ones for bug fixes and ones required by mission changes, Configuration Management related and CCB processes related etc.

- All paras: Contractor's best practices are acceptable except the following tailoring is required
- Line 2: Add "The Plan's pages shall be sequentially number and securely bound together.
- Line 3: Add "Item H. Identification: The plan shall identify the Contractor's name, contract number, title and number of the task order, security classification of the plan, name of contract monitor, and the government office issuing the tasking."
- Line 3: Add "Item I. Descriptive Material: The plan shall include descriptive material, sketches, photographs, tables, forms, graphs, worksheets, charts, etc., as required."
- Line 3: Add "Item J. Table of Contents and Index: Plans of more than 30 pages in length will contain a table of contents."
- Line 3, para g: Add "(3): The plan shall include a description of the Contractor's organizational structure and assignment of functions, duties and responsibilities which will be assigned in support of the tasking. Additionally, the plan shall identify the Contractor's procedure, policies, and reporting requirements established to initiate, monitor, control, complete and report on activities required by the task order.
- Line 3: Add "para g(4):Personnel. The plan shall identify the names and types of personnel assigned to accomplish the task order. The plan shall show how the combination of people assigned to each task provides a sufficient knowledge/experience base for that task. This includes identifying and special education, training, experience, or skills of these individuals. Also, any special administrative support requirements shall be identified."
- All lines: All content is dedicated to the goal of describing in Contractor's own tailoring the Tasks the Contractor proposes to accomplish to accomplish the objectives of the PWS in the Modeling, Simulation and Analysis area

Delivery Instructions – The MS&A Support Plan will be submitted NLT 30 days from ATP and thereafter shall be reissued in the event of a major change in the Task orders of the Government only at the discretion of the PCO. The Technical POC from ZA shall initiate the revision through the COR, PCO. The document will be used to execute the Taskers delineated in the MSA portion of the PWS on acceptance by the PCO. The minimum required format for the deliverable will be one CD/ROM copy to DCK (PCO), the Contracting Officer's Representative (COR) and one electronic copy to the Division Technical Representative in the associated PWS sections. Distribution authorized to DoD and US DoD contractors.

APPENDIX A – COMPLIANCE DOCUMENTS

The following reference documents guide the SMC/ZA program activities supported by this effort; each reference listed is the current released edition. In executing the tasks in this PWS, the contractor shall ensure that the latest version applicable to ZA's Architecting, Engineering & Integration efforts is used to inform planning and execution of PWS tasks unless otherwise directed by the Government.

GENERAL

- Executive Order 13494, Economy in Government Contracting
- Executive Order 13495, Non-displacement of Qualified Workers Under Service Contracts
- Executive Order 13520, Reducing Improper Payments and Eliminating Waste in Federal Programs
- Executive Order 13148, Greening the Government Through Leadership
- Executive Order 12958, As Amended
- Federal Acquisition Regulations (FAR), current edition
- Department of Defense FAR Supplement (DFARS), current edition

DoD REFERENCES

- CJCSI 3170.01H, Joint Capabilities Integration and Development System
- CJCSM 3170.01E, Operation of the Joint Capabilities Integration and Development System
- CJCSI 6212.01F, Interoperability and Supportability of Information Technology and National Security Systems (Net-Ready Key Performance Parameter (NR-KPP)
- DoDI 5000.02, Operation of the Defense Acquisition System
- DoDD 5000.1, The Defense Acquisition System
- DoD 5000.61, DoD Modeling and Simulation (M&S) Verification, Validation, and Accreditation (VV&A)
- DoDD 3100.10, Space Policy
- DoDD 5101.2, DoD Executive Agent for Space
- DoDD 8320.03, Data Sharing in a Net-Centric Department of Defense
- DoD 5000.2-R, Mandatory Procedures for Major Defense Acquisition Programs
- (MDAPS) and Major Automated Information System (MAIS) Acquisition Programs
- DoDM 5105.21-V1, V2, and V3 SCI Administrative Security Manuals
- DoD 5200.1-R, DoD Information Security Program
- DoD 5200.1-M, Acquisition Systems Protection Program

- DoD 5200.1-PH, DoD Guide to Marking Classified Documents
- DoD 5200.1-PH-1, Classified Information Nondisclosure Agreement (SF312)
- DoDD 5200.2, DoD Personnel Security Program
- DoD 5200.2-R, DoD Personnel Security Program Regulation
- DoD 5200.39, Critical Program Information (CPI) Protection Within the Dept of Defense
- DoDD 5205.02, DoD Operations Security Program
- DoD 5220.22-R, National Industrial Security Program (NISPOM) Regulation
- DoD 5220.22-M, National Industrial Security Program Manual
- DoD 5220.22-M-Sup-1, National Industrial Security Program Manual, Supplement
- DoDI 5230.29, Security and Policy Review of DoD Information for Public Release
- DoD 5500.7-R, Joint Ethics Regulation
- DoDD 7045.14, Planning, Programming, and Budgeting System, current edition
- DoDD 8500.01E, Cybersecurity (IA)
- DoDI 8500.2, Cybersecurity Implementation

- DoDI 8510.01, DoD Cybersecurity Certification and Accreditation Process (DIACAP)
- DODI 8523.01, Communications Security (COMSEC)
- DoDI 8560.01, Communications Security Monitoring and IA Readiness Testing
- DoDI 8580.1, Cybersecurity in the Defense Acquisition System
- DoD 8581.E, Cybersecurity Policy for Space Systems Used by the Dept of Defense
- DoD 8570.01-M, Cybersecurity Workforce Improvement Program
- Defense Acquisition Guidebook
- The Department of Defense Interim Cybersecurity Strategic Plan
- DIACAP Knowledge Service (DISA)
- DoD Architecture Framework (DoDAF) Version 2.02 (August 2010)
- DAU Integrated Defense Acquisition, Technology, and Logistics Life Cycle Management System, SMC Satellite Acquisition Process Version 5.4.14, (25 Jul 2012), the “Horse Blanket”
- Systems Engineering Fundamentals, DAU Press (2001)
- Defense Acquisition Guidebook
- DAU Test and Evaluation Management Guide; 6th Edition
- DoDD 8500.1, Cybersecurity (Oct 2002)

AIR FORCE REFERENCES

- AFI 10-601, Capabilities-Based Requirements Development
- AFI 10-604, Capabilities-Based Planning
- AFI 10-1202 (I); AR 70-43; OPNAVINST 3913.1A, Space Test Program (STP) Management, 15 November 2010
- AFI 14-206, Modeling and Simulation
- AFI 16-501, Control and Documentation of Air Force Programs
- AFI 31-401, Information Security Program Management, 1 January 1999
- AFI 33-401, Implementing Air Force Architectures
- AFI 61-101, Management of Science and Technology
- AFI 63-101/20-101 Integrated Life Cycle Management

- AFI 63-114, Quick Reaction Capability Process
- (superseded by AFI 63-101/20-101 7 March 2013))AFI 90-201, The Air Force Inspection System
- AFDD 2-2, Space Operations
- AFDD 2-2.1, Counterspace Operations
- AFPD 10-6, Capability Requirements Development
- AFPD 10-9, Lead Command Designation and Responsibilities for Weapon Systems
- AFPD 10-28, Air Force Concept Development
- AFPD 16-5, Programming, and Budgeting System, 29 July 1994 (under revision)AFPD 31-6, Industrial Security, 1 April 2000
- AFPD 61-2, Management of Scientific and Technical Information
- AFPD 63-1, Acquisition and Sustainment Life Cycle Management
- AFPD 63-17, Technology and Acquisition Systems Security Program, 26 November 01
- SAF/AQR, Early Systems Engineering Guidebook, dated 31 Mar 09
- SAF/AQR, Technology Development and Transition Strategy (TDTS) Guidebook, July 2010
- SAF/AQRE Technology Development Strategy Development and Review Guide, ver 2.2, 8 Nov 2010
- SAF/AQR, Guidance Memo for Minimum Criteria for Technology Transition Planning Documents, 12 May 2009 (Jaggers Memo)
- USD (AT&L) memo "Directive-type Memo 09-027, Implementation of WSARA 2009", 4 Dec 2009
- USD (AT&L) memo "Prototyping and Competition", 19 Sep 2007 (John Young Memo)
- SAF/AQ memo "Guidance Memorandum: Prototyping and Competition", 14 Oct 2008.

AIR FORCE SPACE COMMAND REFERENCES

- AFSPCI 10-102, Air Force Space Command Concept Development
- AFSPCI 10-103, Capabilities-Based Operational Requirements Guidance
- AFSPCI 61-101, Space Science and Technology (S&T) Management
- AFSPC, Gen Kehler Letter, Innovation in Space and Cyberspace, 04 Jan 2011 (Provided by SMC/ZA)
- AFSPC Innovation Strategy Implementation Plan, 13 May 2011 (Provided by SMC/ZA)
- AFSPC Mission Area Architecture (MAA) Process (Currently being drafted; SMC/ZA will provide if necessary once released)
- SMC MAA and Cross Enterprise Governance…
- SEAS Modeling and Simulation Support Plan (MSSP)
- AFSPCMAN 91-710 Range Safety Requirements, current edition

SPACE AND MISSILE SYSTEMS CENTER REFERENCES

- LTS-10-2010-04, Tailored Version of SMC Standard SMC-S-016 for LTS Programs
- SDL-10-2011-01, Systems Engineering Plan
- SDL-10-2011-03, Lessons Learned
- SDL-10-2011-06, Data Management and Configuration Management
- SDL-10-2011-08, System Reviews

- SMC Cross-Mission Area Architecture Charter (April 2013)
- SMC Cross-Mission Area Architecture Governance Process (April 2013)
- SMC-G-1202, Space Flight Worthiness Criteria, current edition
- SMC-G-1204, Space Launch Readiness Review Process Guide, current edition
- SMCI 63-1205, Space System Safety Policy Process, and Techniques
- SMC-S-001; Systems Engineering (2013)
- SMC-S-002; Configuration Management (June 2008)
- SMC-S-012, Software Development for Space Systems
- SMC-S-019, Rev A; Program and Subcontractor Management (April 2008)
- SMC-T-003, Limiting Orbital Debris SMC Tailoring of NASA-STD-8719.14
- SMC-T-005 (2014)
- SMC/CC's Space Program Protection Planning Guide (SP3G), Feb 2002
- All Applicable SMC/ZA Security Classification Guides

DIRECTOR OF CENTRAL INTELLIGENCE DIRECTIVES

- DCID 6/3, Protecting Sensitive Compartmented Information Within Information Systems, Appendices A, B, C, D, F, and G, Classified Annex E and Industry Annex
- DCID 6/9, Physical Security Standards for Sensitive Compartmented Information Facilities

- ICD 503, Information Technology Systems Security Risk Management, Certification and Accreditation
- ICD and ICPG 704, Personnel Security Standards and Procedures Governing Eligibility for Access to SCI and other Controlled Access Program Information
- ICD and ICS/Tech Specs 705, Physical Security

ADDITIONAL REFERENCES

- Capability Model Maturity Integration (CMMI)®, CMMI: Guidelines for Process Integration and Product Improvement, Mary Beth Chrissis, Mike Konrad and Sandy Shrum, Addison-Wesley, ©2003
- ISO 17666, Space Systems – Risk Management, Apr 2003
- IMP/IMS Preparation and Use Guide, Ver 0.9, 21 Oct 2005
- TOR-2007(8546)-6018, Mission Assurance Guide
- TOR-2011(8591)-5, Mission Risk Planning Tailoring Guidelines for National Security Space
- EWR 127-1, Eastern/Western Range Safety Requirements, current edition
- NAS 411, Hazardous Materials Management Program, current edition
- RCC 319-xx, Flight Termination Systems Commonality Standard, current edition
- SD System Safety Management Plan
- http://www.acqnotes.com/Attachments/DoD%205000.59%20Modeling%20and%20Simulation.pdf **–DoD Modeling and Simulation Management**

APPENDIX B – ACRONYM LIST

A&AS: Advisory and Assistance Support
ABMS: Advanced Battle Management System
ACMP: Advanced Concepts and Missions Process
AF: Air Force
AFB: Air Force Base
AFI: Air Force Instruction
AFNIC: Air Force Network Integration Center
AFPEO/SP: Air Force Program Executive Officer for Space
AFRL: Air Force Research Laboratory
AFSPC: Air Force Space Command
AIA: Air Intelligence Agency
AMD: Advanced Missile Development
AoA: Analysis of Alternatives
AOR: Areas of Responsibility
APACS: Aircraft and Personnel Automated Clearance System
APL: Auxiliary Payload
BA: Battlespace Awareness
BAFB: Buckley AFB
BBP: Better Buying Power
BMC3: Battle Space Awareness Management Command Control and Communications
BPA: Blanket Purchase Agreement
C2: Command and Control
CAR: Corrective Action Report
CARD: Cost Analysis Requirements Documents
CASRs: Capability Area Strategic Reviews
CAT: Capability Area Teams
CCB: Configuration Control Board
CCDR: Combatant Commander
CCMD: Combatant Command
CCTD: Concept Characterization and Technical Description

CDD: Capability Development Document
CDRL: Contract Data Requirements List
CFSP: Core Function Support Plan
CILs: Critical Information Lists
CISSP: Certified Information Systems Security Professional
CLIN: Contract Line Item Number
CM: Configuration Management
CO: Contracting Officer
COMSEC: Communications Security
CONOPS: Concept of Operations
COR: Contracting Officer Representative
CPAR: Contract Performance Assessment Ratings
CPD: Capability Production Document
CPGS: Conventional Prompt Global Strike
CROs: COMSEC Responsible Officers
CWAN: Contractor Wide Area Network
DAB: Defense Acquisition Board
DAG: Director's Action Group
DARPA: Defense Advanced Research Projects Agency
DD Form: Department of Defense Forms
DFARS: Department of Defense Federal Acquisition Regulation Supplement
DIA: Defense Intelligence Agency
DIACAP: DoD IA Certification and Accreditation Process
DISA: Defense Information Systems Agency
DISNet: Distributed Interactive Simulation Network
DoD: Department of Defense
DoDD: Department of Defense Directive
DoDI: Department of Defense Instruction
DREN: Defense Research Engineering Network
DSL: Decision Support Lab
DSWAN: DARPA Secret Wide Area Network
DT: Developmental Test(ing)
DTR: Divisional Technical Representative
EA: Enterprise Analysis

EELV: Evolved Expendable Launch Vehicle
EGS: Enterprise Ground Services
EM: Environmental Monitoring
EOT: Early On-orbit Test
ESAO: Enterprise Strategy and Architectures Office
FAR: Federal Acquisition Regulation
FFRDC: Federally Funded Research & Development Center
FSS: Flight Software Subsystem
FSW: Flight Software
FI2ST: Fast Integration of Innovative Technology
FMS: Foreign Military Sales
FoS: Families of Systems
FTE: Full-Time Equivalent
GEO: Geostationary Orbit
GFI: Government Furnished Information
GIG: Global Information Grid
GSA: General Services Administration
GSA: Ground System Architecture
HAF: Headquarters Air Force
HMC: Hanscom AFB Mil Cloud
HEO: Highly Elliptical Orbit
HPIU: Hosted Payload Interface Unit
HPO: Hosted Payload Office
HQ: Headquarters
HR: Human Resources
IA: Cybersecurity
IAC: International Armaments Cooperation
IAW: In Accordance With
ICD: Intelligence Community Directive
ICD: Interface Control Document
ICD: Initial Capability Document
IDIQ: Indefinite Delivery/Indefinite Quantity

IMP: Integrated Master Plan
IMS: Integrated Master Schedule
I-NOSC: Integrated Network Operations and Security Center
IPL: Integrated Priorities List
IPP: Integrated Planning Process
IPT: Integrated Product Team
IR: infrared
ISR: Intelligence, Surveillance, & Reconnaissance
IT: Information Technology
ITAR: International Traffic in Arms Regulations
JCIDS: Joint Capabilities Integration Development Systems
JPAS: Joint Personnel Adjudication System
JWICS: Joint Worldwide Intelligence Communication System
KAFB: Kirtland AFB
KM: Knowledge Management
LAAFB: Los Angeles AFB
MAJCOM: Major Command
MCL: Master Change List
MD: Missile Defense
MDA: Missile Defense Agency
MDI: Missile Defense Integration
MILSATCOM: Military Satellite Communications
MMSOC: Multi-Mission Space Operations Center
MOA: Memorandums of Agreement
MOE: Measures of Effectiveness
MOP: Measures of Performance
MOU: Memorandums of Understanding
MS&A: Modeling, Simulation & Analysis
MT: Missile Tracking
MUA: Military Utility Analysis
MW: Missile Warning

NASA: National Aeronautics and Space Administration
NDAs: Non-Disclosure Agreements
NIPRNET: Non-classified Internet Protocol Router Network
NOAA: National Oceanic and Atmospheric Administration
NR-KPP: Net-Ready Key Performance Parameter
NRO: National Reconnaissance Office
NSLA: National Security Launch Architecture
NSS: National Security Space
OASIS: One Acquisition Solution for Integrated Services
ODC: Other Direct Costs
OGAs: Other Government Agencies
OPIR: Overhead Persistent Infrared
OPSEC: Operations Security
ORS: Operationally Responsive Space
OT: Operational Test(ing)
OUSD/SW: Office of the Under Secretary of Defense Strategic Warfare
PA: Portfolio Architect
PAFB: Peterson AFB
PBR: Program Baseline Review
PCA: Pointing and Control Assembly
PCO: Procuring Contracting Officer
PEO-TEO: Program Executive Officer – Technology Executive Officer
PESHE: Programmatic Environment Safety, and Occupational Health Evaluation
PM: Program Manager
PMO: Program Management Office
PMRs: Program Management Reviews
PNT: Positioning, Navigation & Timing
POC: Point(s) of Contact
POM: Program Objective Memorandum
PoP: Period of PerformanceAB
PPBE: Planning, Programming, Budgeting, & Execution
PPP: Program Protection Plan
PSSA: Persistent Space Situation Awareness
PWS: Performance Work Statement

RCO: Rapid Capabilities Office
R&D: Research and Development
RMF: Risk Management Framework
RSLP: Rocket System Launch Program
S&T: Science and Technology
SAP: Special Access Program
SAR: Special Access Required
SATCOM: Satellite Communications
SBIR: Small Business Innovation Research
SBIRS: Space Based Infrared System
SCC: Space Combat Cloud
SCI: Sensitive Compartmented Information
SCIFs: Sensitive Compartmented Information Facilities
SDA: Space Domain Awareness
SDREN: Secret Defense Engineering Network
SDSL: Secret Decision Support Lab
SEA: Systems Engineering & Architecting
SEAS: System Effectiveness Analysis Simulation
SE&I: Systems Engineering and Integration
SEP: Systems Engineering Plan
SETA: Systems Engineering and Technical Assistance
SGN: Secure Global Network
SIPRNET: Secret Internet Protocol Router Network
SMC: Space and Missile Systems Center
SMC/ZA: Portfolio Architect
SMC/PI: Program Management & Integration Directorate
SMC/PIC: Acquisition Contracts Support Division
SMC/PKE: Specialized Contract Division
SME: Subject Matter Expert
SOEA: Space Operation Enterprise Architecture
SoS: Systems of Systems
SPA: Signal Processing Assembly
SPA: SMC Portfolio Architect
SRD: System Requirements Document

SSDP: Space Security & Defense Program
STP: Space Test Program
STS: SMC Technical Support
STS-2: SMC Technical Support-2
STS-3: SMC Technical Support-3
SV: Satellite Vehicle
SYNAPSE: System of Networked Agile Pathways in Space
TAA: Technical Assistance Agreements
TBM: Theater Ballistic Missiles
TDS: Technology Development Strategy
T&E: Test and Evaluation
TEMP: Test and Evaluation Master Plan
TEMPEST: Telecommunications Electronics Materials Protected from Emanating Spurious Transmissions
TI: Technical Intelligence
TISR: Tactical Intelligence, Surveillance, & Reconnaissance
TOMP: Task Order Management Plan
TPED: Tasking, Processing, Exploitation and Data Dissemination
TRD: Technical Requirements Documents
TRL: Technology Readiness Level
TS: Top Secret
TS DSL: Top Secret Decision Support Lab
TT&C: Tracking, Telemetry & Control
TTP: Tactics, Techniques and Procedures
UARC: University Affiliated Research Center
UDSL: Unclassified Decision Support Lab
USSF: United States Space Force
USSTRATCOM: United States Strategic Command
V&V: Verification and Validation
VTC: Video Teleconferencing

APPENDIX C – SOFTWARE LIST

Application
ASTI – previously known as Tactical Radio Simulators
Giant – Global Positioning System (GPS) Interference And Navigation Tool
GoogleEarth
ISSA/SCOPE - Integrated Space Situational Awareness
JMP
Mathematica
MathLab
PC'ver - DIS intercom and radio transceiver for Windows
RedHat Linux
RedSim
Satellite Tool Kit
SEAS - System Effectiveness Analysis Simulation
SOAP - Satellite Orbit Analysis Program
STAMP – Strategies to Tasks to Architecting Measures of Performance
STORM - Synthetic Theater Operations Research Model
System Architecture
VBMS - Virtual Battle Space Management System
Veritas